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MEDICAL SOCIETY OF THE COUNTY OF KINGS.

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VOL. I. BROOKLYN, N. Y., JANUARY, 1888. NO. 1.

ORIGINAL ARTICLES.

THE CHANGING CONDITIONS OF PROFESSIONAL WORK
IN THE CITY OF BROOKLYN, WITH SPECIAL
REFERENCE TO SURGICAL PRACTICE.

BY LEWIS S. PILCHER, M.D.,

Surgeon to the Methodist Episcopal Hospital; Professor of Clinical Surgery in the New York
Post-Graduate Hospital and School.

The address of the Chairman of the Surgical Committee of the Medical Society of
the County of Kings, read before the Society, Sept. 20th, 1887.

I beg to depart a little from the beaten track of reports of clinical cases and the discussions of surgical therapeutics, technique, and principles hitherto followed by those charged with the responsibilities of the surgical committees of the Kings County Society, by introducing at this time some observations and reflections of a general character bearing upon the conditions in which surgical work is now done in this city of Brooklyn, upon the changes which have occurred here under my own observation during recent years, and upon the possibilities of future progress of which some indications are discernible.

The time is particularly favorable for such a line of thought. Local changes have followed one another so rapidly during the past few years, both in the body politic and the body medical, that it has been difficult for those of us who are in the midst of them to realize their real character and extent, and an occasional halt to take an observation or to

make a sounding cannot be otherwise than profitable. No one can have watched the marvellous events that have been transpiring in our midst during the past fifteen years without becoming aware of the fact that a new city has arisen and that new social conditions are being created. Its population has nearly doubled during this period, large areas of territory have been built over, its system of surface street horse-railroads has been quadrupled in extent, and the beginnings of an extensive series of elevated steam roads are already darkening the main thoroughfares of the city. During this period the great bridge, that now makes a bond of vital union with its sister city across the East River, has had its inception, growth, and triumphant completion ; large numbers of factories of every kind have been established within its territory, enormously increasing its importance as a manufacturing center ; its system of wharves, docks, and warehouses has extended until the number of vessels that crowd to them has reached proportions far exceeding that of New York City ; the telephone, the electric light, and all the varied domestic uses of electricity, have been introduced.

Yet with all this progress in these directions, thus faintly outlined, it must be obvious to the thoughtful observer that we are but upon the threshold of what is to come ; that what is to be seen to-day is but a suggestion of the growth of the future ; that it is still an infant city whose growth and development are passing under review.

The political, religious, and educational machinery of the city is struggling, as yet ineffectually, to keep pace with the new conditions that are to be met and controlled. These naturally follow haltingly some distance behind the more material progress already noted. It would be strange if, among all this universal ferment and evolution, the body medical did not present signs of change and progress worthy of being noted.

At the beginning of the period mentioned, in 1872, the Medical Society of the County of Kings was celebrating the fiftieth anniversary of its institution ; it was about to exchange the limited rooms of the Hamilton Literary Society, in which it had been holding its sessions, for the more spacious quarters of Everett Hall, and there to enter upon a period of much activity and progress. During its sojourn here, its transactions were published, its library was securely founded, and its Registry of Nurses was established ; it became a valuable source of stimulus to original work and observation among many of its members ; it placed itself upon a broad and liberal platform as a scientific association, whose object is to furnish incentives and helps to the highest standard of professional excellence. The most important event in its history is only now just consummated in the acquirement of a building and grounds which are to give accommodation to the varied needs of the society. It has become

now one of the institutions of the city, its permanence and its future development are guaranteed, and the spirit which now animates its organization, together with the inevitable pressure upon it of the incessantly active, eagerly progressive, broadly catholic spirit of the city of which it is a part, supplies such conditions that it demands no supernatural gift of prophecy to foretell the important part which it will play in contributing to the highest welfare of the medical profession in this city in the future. Most of us have read the interesting address of Weir Mitchell, in which he details the history and the influence of the College of Physicians of Philadelphia during the first hundred years of its existence, now just completed. The record is extremely suggestive. Though founded by men who were statesmen, scholars, and philanthropists, as well as physicians, the record of its first fifty years is such a barren one that the orator is forced to the inquiry, "Why the college survived at all?" and finds as the most plausible answer, pride-nourishing traditions and the conservative power of property, a little money hoarded by careful treasurers, and a small though valuable library. The real importance and influence of the college date from the time when Muetter offered to it his museum and an endowment of \$30,000, on condition that fire-proof shelter was provided for the collection, and when, by the liberal gifts of many, the necessary funds were obtained, and a building adequate for all the needs of the college was provided. This was in 1863; so that it is within the past twenty-five years that the present relative importance of that institution has been secured to it, including its museum, which is one of the most valuable and interesting collections in America, and its library of 38,000 volumes and 20,000 pamphlets, second in size only to that of the Surgeon-General's office at Washington. I mention the career of this medical association of another city as an illustration of the value of the "property qualification" to a medical organization, and as a suggestion of the lines of development which are possible for the society that I now address, which now finds itself in the possession of valuable property, a fine library, a large and enthusiastic membership, and with enviable traditions and prestige.

When, in 1868, a valuable medical library was given to the Medical Society of the County of Kings by the widow of a distinguished member then recently deceased, the society was embarrassed by it. Not knowing how to take care of it, it solved the difficulty by giving it away in turn to the Historical Society. This well illustrates the difference between the former days and the present. While the society had no permanent abiding place, books were a burden, and specimens were rubbish. Possessed of its own building, with capacious shelves, it will become avaricious of both, and will be able to utilize both for the greatest good of the greatest number.

All honor to the men who have brought these changes about ! It is one of the most auspicious things in connection with these events that no one name is pre-eminently conspicuous as their author, but that many must share in the credits to be awarded. I have no patience with those who are continually belittling the medical profession of this country. The medical men of every age and of every country are the products of their environment, and fairly represent the better class of educated, thinking men in any community. I see everywhere in our country evidences of a constantly rising standard of medical attainment. It is not the result of resolutions adopted by societies, nor of acts passed by legislatures, though both of these may from time to time reflect prevailing opinions. It is the result of natural forces arising from our free institutions and liberal social conditions—the result of increasing intelligence, wealth and leisure, and of free competition. *Palmas qui meruit* is the great force which in this country is pushing the average standard of medical excellence continually higher. Thus the advancement in the status of professional attainment which the present condition of this, the representative general medical society of Brooklyn presents, is the result of many agencies working together ; it is a natural, and therefore a healthy and permanent growth—one, in the accomplishment of which, many minds have borne an important part.

It seems to me that there are yet other evidences of the development of the medical profession of Brooklyn out of the *quasi* provincial and subordinate position, as related to New York City, which it has hitherto unquestionably held, into one of equal independence and metropolitan importance, besides these considerations pertaining to the growth of the city and the development of its chief medical society, already briefly given. These evidences, which I wish next to refer to, are to be found in the condition of its medical schools and of its hospitals.

It is difficult to exaggerate the importance to a community in the quickening of its medical men, which arises from the establishment within it of a properly organized institution for medical teaching. It means a new life and vigor all along the medical line ; it means more study, more attention to detail and principles, more investigation, more criticism, more comparison of results. It means, sooner or later, the rising up in a community of a body of trained reasoners, acute observers, and specially skilled practitioners ; it means a wider diffusion of knowledge of importance to the public ; it means a higher class of medical practitioners, and a community better educated to appreciate them. There is something in the act of attempting to impart information to others which benefits the teachers quite as much as the taught ; so that the subordinate tutorial work which many young men find the opportunity of engaging in under the the supervision of older men in medical institutions, is con-

stantly furnishing many who are really entitled to be called "Doctors," *i. e., teachers.*

It seems to me that, when the future historian shall come to write up the history of Brooklyn, he will place in no mean place in his list of public benefactors the men who had the foresight, the courage, and the persistence to found and maintain within it, against much indifference and some opposition, a medical school of a superior class.

It must be gratifying to every public-spirited physician of Brooklyn to have witnessed the recent appearance of growth and prosperity in the only medical school the city possesses. When it attained to the strength that enabled it to begin its regular sessions in the fall, and to carry on its instructions at the same time as other institutions of like high grade, it contributed much to remove the stigma of provincialism from Brooklyn medicine.

It is hardly to be expected that in the future there will be no increase in the number of medical schools in the city of Brooklyn. There are many signs to be discerned by one who chooses to look for them, indicative of a great change in some of the phases of medical instruction in the United States. One of these changes may possibly be that the degree of Doctor of Medicine will become esteemed, as now in Germany, simply like that of Bachelor of Arts or Doctor of Philosophy, without conferring any rights of practice, and that the various States of the Union will establish their own State Examining Boards, whose examinations all must submit to who would practice within the limits of the State, without any regard to the place where they obtained their medical education or degrees. Such a change in the method of admission to medical practice, when it once has become quite general, will produce many changes in the medical schools of the country; practical instruction and clinical facilities will be exalted, and those institutions in which students may obtain these most readily and in greatest abundance will be sought after. Wherever the conditions exist that may promise to supply these clinical opportunities, there the giving of instruction will be most likely to develop, and it is possible that in such a city as Brooklyn is even now, much more such as it bids fair to become, abundant clinical opportunities will invite the presence of students and excite the activity of teachers. A healthy emulation of this kind could not but react for good on the schools themselves, and be of advantage to the community at large.

Among the agencies for medical instruction that promise to exert a most desirable influence in the elevation of the local profession of this city, is the Bacteriological and Pathological Laboratory now in process of erection by Dr. C. N. Hoagland. It is safe to say that no man in the future will be counted a surgeon who is not also a bacteriologist, to the extent at least of being familiar with the appearance, habits, and effects

of pathogenic micro-organisms. But at the same time their study demands such minute and careful methods, and such technical difficulties in manipulation and detection, such labor and such patience, that it is essential that special opportunities and helps be afforded for this study to those who would become familiar with them. With the completion of the Hoagland Laboratory, there is reason to expect that all these facilities will be placed at the command of the student and practitioner in Brooklyn, and thus a most important aid given toward putting the surgery of Brooklyn in line with the progress of time.

Of all the elements of professional life which contribute to its progress in any city, none however is so important as its hospitals. Upon their number, their character and organization, and upon the spirit which characterizes their management depends much of the tone of the profession throughout the community. Who can calculate the influence of Saint Bartholomew's, of Guy's, and Saint George's upon the profession of England; of the Royal Infirmary of Edinburgh, in Scotland; of the Hôpital Dieu at Paris and Lyons, in France; of the Charité and the Royal Klinik in Berlin; and, nearer home, of the Massachusetts General Hospital in Boston, of the Pennsylvania Hospital in Philadelphia, or of the New York Hospital and Bellevue in New York City? Hospitals form an arena in which not only are individual men trained and rendered skillful in their art, while suffering is relieved and the destitute are cared for, but they display to the public in such an unmistakable form the power and value of the healing art, that a higher estimate of the medical art and a greater influence to medical men invariably results from them.

In the hospital wards and post-mortem rooms medical theories are tested; empiricism gives way to rational systems; dreams and vagaries and unfounded assumptions are replaced by patient investigation and careful comparison. In hospitals, if anywhere, are to be found the opportunities for the best and most fruitful use of all the means known to medical science. To-day, more than ever before, they are the laboratories in which are being elaborated positive knowledge in the domain of disease and cure. They bear an important relation to the life of to-day far exceeding anything which has existed in the past. Late years have witnessed a rapid increase in their numbers, with a tendency to specialization in the class of cases admitted to individual institutions. This is the natural result of the great enlargement of the domain in which medicine and surgery are now able to promise help to suffering men, provided the necessary conditions can be complied with. And these are often conditions of organization, of hygiene, of nursing, and of technical detail that can with difficulty be obtained in an ordinary home. Even in the abodes of the wealthy it is often difficult to secure that perfection of

service for the sick which is the normal condition of a properly organized hospital. One of the most significant features of the medical world of to-day is the great extension of the field which hospitals occupy in a community. Those who feel their need and are calling for the advantages of hospital treatment are no longer simply the indigent, ignorant, and destitute. Those who are intelligent, and who are both able and willing to pay for their treatment, are knocking in great numbers at the doors of such hospitals as have more general confidence. No class of persons is more keenly alive to the value of hospital advantages, and is more greatly interested in their improvement and multiplication, than are the physicians of a community. They appreciate better than any other class of men can the needs which exist in a community, and the possibilities of relief which a properly constructed, organized, and equipped hospital affords.

It is but a few years since our colleague, Dr. A. Segur, called the attention of this society, in a brief paper, to the lack of hospital accommodation and endowment at that time in the city of Brooklyn. He drew the picture none too strongly; indeed he would have been justified in bringing out much more sharply the defects in this line existing in this city.

It has been exceedingly unfortunate, both for the institution itself and for the city which it is intended to serve, that our great County Hospital, with its four hundred beds; should have been located at such a distance from the city, and with such unsavory surroundings. The result has been to make it practically an appendage of the almshouse, and to eliminate it almost entirely from the medical world of the city. Only to a very limited extent has it answered to any of the hospital needs of the city, in their best sense. It has not enjoyed the advantages of the sympathies or the criticisms of the profession of the city, nor has it contributed to any considerable extent to the enrichment of their professional information or experience. This has been the more important since it is the sole public hospital of the county, to which all in need have had a right to apply for help, and which in turn has had a right to draw upon the public funds for all its needs. In its medical organization, no attempt has been made to follow the example of other similar institutions, and commit its service to a corps of enthusiastic and able men picked from the physicians of the city. Of the advantage of this system an examination of the work of Bellevue and Charity Hospitals in New York, of the City Hospital of Boston, of the Blockley Hospital of Philadelphia, of the Charity Hospital of New Orleans, and of the Cook County Hospital of Chicago, will suffice to convince any one. There are three-fold advantages springing from it which accrue to the patients of the institution, to the physicians who serve them, and to the community at large most of

all. It is foreign to my purpose to speak at length of either the present condition or the possible future of our County Hospital. I mention it in this connection as one of our medical institutions which has not yet felt the quickening that has been stirring our city's pulse during these latter years; it is a fallow field toward which it would be eminently proper that this society should turn its attention.

All the other hospitals of the city have had, and continue to have, their work greatly circumscribed and embarrassed by want of means. There is not one whose managers do not bewail their inability to anywhere near realize their ideal; yet they are struggling to do what they can, and are pouring a stream of beneficence upon this community that should call back from it into their treasuries the most abundant gifts and endowments. It is their limitations from lack of means which prevents them from measuring up to that ideal standard of hospital excellence which will yet have to be reached before Brooklyn can claim for its medical profession that meed of respect which is their due. It might well be said of the profession of any city, "by their hospitals ye shall know them." It certainly is true that from the medical profession of a community must come the influence which shall prompt and guide the gifts necessary for supplying the community with hospitals of the highest type. It has been a frequent source of lament in the past history of our city that there was a lack of public spirit among its wealthy citizens. Few of those monuments of beneficence were to be found which are accustomed to mark the presence in a community of men of wealth and public spirit. This reproach is being rapidly wiped away. The magnificent building of the Young Men's Christian Association now embalms the name of Marquand; the Adelphi Academy and the nearly completed School of Industrial Technology witness to the enlightened liberality of Pratt; the magnificent cluster of hospital buildings on Seventh Avenue must win the gratitude of every citizen, and especially of every physician, to Seney.

These good works will be provocative of others; let the physicians of the community see to it that some of the streams of liberality which are beginning to flow are directed to the development and endowment of its hospitals.

Four large hospitals have been built in the City of Brooklyn during the period under review in the present communication; that is, since 1872. These are Saint Catherine's Hospital, in the Williamsburg District; Saint Mary's and Saint John's, in the East Brooklyn District; and the Methodist Episcopal, in the Gowanus District. These have been deliberately planned and constructed for hospital purposes since the more perfect methods of hospital construction, that now are generally approved by hygienists, have been understood, and, to a more or less perfect

degree, they have been built in accordance therewith. The resources of all the three first named have been taxed to their utmost during the whole time that has elapsed since their opening. The work of their attending staffs has been a most valuable addition to our common professional treasury. One pavilion of the last named is now nearly ready for occupation, and in a few weeks will be thrown open for the public. What its work and influence will be, remains yet to be seen. Its promise is good, for in its planning and construction neither study, nor time, nor money has been spared to make it as perfectly adapted as possible for the highest type of hospital work.

If my postulate is correct that there is a close relationship between the best phases of the general medical life of a city and its hospitals, it is apparent that the introduction into this community of the institutions just named must already have had a great influence in developing a higher standard of medical attainment in this city. That such a development has been rapidly going on during the past fifteen years every close observer will readily acknowledge. But it is in the domain of surgery that the change is most marked. At the beginning of this period the principles of antiseptic surgery were just beginning to find a lodgment on this side of the Atlantic. Lister had just commenced his career at Edinburgh, after his earlier triumphs in England. In that year, 1872, Volkmann introduced Listerian methods at Halle, and it was not until two years later that Nussbaum adopted the practice in Munich. The whole period of antiseptic surgery, with its marvellous achievements and revolutionizing results is included within the brief period under review.

While the antiseptic idea has revolutionized and extended surgery, it has vastly increased the importance of hospitals, for a considerable proportion of its achievements are with very great difficulty attainable under any other conditions than those found in a perfectly equipped and wisely ordered hospital. In addition to this the ability to fully carry out antiseptic principles in private work requires much preliminary training and experience, and this is only to be obtained satisfactorily either by actual work in hospitals, or by frequent and close study of the work as done by hospital surgeons.

It is not invidious nor improper to say that the complete antiseptic idea has been slow in becoming adopted in the hospital work of Brooklyn. To the natural conservatism of men who by their age and experience have justly been intrusted with the control of hospital interests has this been due in some measure. The absence of that keen competition and publicity of work which exists in some other cities has had something to do with it also, while a considerable influence must be ascribed as well to the lack of means and of proper facilities for work the result of the cramped pecuniary status of most of the hospitals of Brooklyn.

The most immediate and greatest changes would be expected to be found in the work of the newer hospitals with their younger workers, untrammelled by long established usages. Such in truth has been the case, so that it is a fact, so fully appreciated and acknowledged by all, that I do not risk offending any one in making the statement, that the results obtained in some of these new hospitals have already been of the greatest importance in bringing the general surgical work of the city up toward the plane of achievement found in other places. This change once fairly inaugurated cannot be stopped. The great principle of strife for existence, as formulated in the expression, "the survival of the fittest," will compel the adoption in every institution of whatever method of general hygiene or special technique experience may demonstrate to be of marked value. Meanwhile it is of special importance to the general profession, and after it to the public at large, that a most generous rivalry and a keen competition in good works be fostered in all the hospitals of the city, for these are no longer merely places where charity is dispensed to the comparatively few individuals who occupy the beds in their wards, but they should be the schools of observation in all matters of professional advance for the practitioners of the present, and are the training schools of those of the future.

While I strive to put a proper estimate upon the value of hospital surgical work, I have no thought of asserting that all major surgery should be done in hospitals. The net idea of my prelection, however, is this that all surgical work, whether private or public, must be made to measure up to the highest known standard, and that in the nature of the case the models of this kind of work are to be looked for in properly organized hospitals. The accepted standards of fifteen years ago are not the standards of to day; nor will the standards of to-day be those of the year 1900. I am now addressing a body representative of the whole medical profession of a great and rapidly growing city. I am profoundly impressed with the importance of the interests which I have been discussing, and my desire is to awaken every practitioner to the personal interest which he has in the support and elevation of the hospital work of this city. The evidences of change and development which have been noted in the preceding remarks give great encouragement; the practical influence of the medical profession of the city must be of the greatest weight in determining the character, thoroughness and rapidity of these changes. Hospital work must not be left to the unskilled direction of those moved simply by charitable impulse, nor must it be merely the perfunctory distribution of public charity to claimants upon the public treasury.

Perhaps no more favorable time than the present will ever present itself for the medical profession of this city to impress a more wise and exalted policy upon the public medical work of this city. Its hospitals

should be reconstructed, and adequately endowed; the great county hospital should be brought into line with the medical life of the city by an improved organization and administration; medical literature should be fostered; and medical teaching and discussion, in all the various forms which they assume, should be advanced. In conclusion, I submit that this, the Medical Society of the County of Kings, can enter upon no line of work more promising of good to itself and of advantage to the community than that of directing its influence in the channels so imperfectly outlined in these remarks.

MULTIPLE NEURITIS AS A SEQUEL OF ERYSIPELAS.

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Read before the Brooklyn Pathological Society, October 29, 1887.

The clinical phenomena and the pathology of multiple neuritis have been the subject of much study within a few years. In a few cases the affection has seemed to occur idiopathically, but it is oftener caused by some poison, using this term in its wider sense. The toxic agent may be either metallic or organic, or result from some form of infection. Amongst the known causative infectious troubles are diphtheria, syphilis, small-pox, scarlet, typhoid, typhus, and intermittent fevers, dengue, measles, tuberculosis, leprosy and beri-beri. Rheumatism and diabetes are parallel causes. This covers the list given by Starr, Ross, and Buzzard in articles published this year. Recently cases have also been described following puerperal disorders.

In none of the accounts accessible to me is erysipelas mentioned. My purpose is *not* to take up the general subject of neuritis, nor to make any close study of its symptomatology, but simply to show by the brief sketch of a case that erysipelas should be added to the list of causative infectious diseases.

The case occurred in a hard-working, stout German woman of sixty-seven years. Her mother is still living in her dotage. The patient is said to have had typhus fever many years ago, and malaria within a few years. It is specially stated that for some time her hands have been growing unsteady ("shaky"), and that she was far from being as vigorous as formerly. On the 13th of last March she was attacked by erysipelas, starting from the nose. It extended down both cheeks, back to the ears, and up to the brows, the swelling quite closing the eyes for a time.

For about five days the temperature ranged from 103° to 104° . But a small amount of nourishment was taken. She was delirious, especially at night, and for a time recovery seemed doubtful. During this attack she was troubled by an over-sensitiveness and stiffness of the left arm and hand. She did not like to have the part touched or moved. The fingers were semi-flexed, and there was tremor on actively or passively extending them.

Besides some antipyretics, cocaine was given when the heart's action began to fail. An iodoform preparation was used locally. By the end of the week her flesh and strength were greatly reduced. When last seen for this trouble, however, she was improving rapidly. The arm affection had so far subsided that little attention was given to it.

A week or ten days later, and perhaps in the meantime, she began to have indefinite pain in her limbs and various parts of the body, to be restless, and to lose regular sleep. She was seen about this time. Her flesh had been considerably regained. Antirheumatics were given. Although her symptoms gradually grew worse, a physician was not again called until some two months after the attack of erysipelas. She was then so far exhausted that subjective conditions could not be closely made out. At this time she complained chiefly of the lower extremities. There was much pain in the right hip, at times in the left, and about the knees, and a tight painful feeling in the calves. There was also some complaint about the left shoulder and both hands. The pain changed about from day to day, though more constant in the parts specified. The muscles of the calves were tender to pressure, very soft, and markedly atrophied, the skin feeling like a loosely filled sack. Yet at this time she could, with assistance and under great distress, stand unsteadily on her feet. Knee-jerk was absent on both sides. No plantar reflex existed, though it was stated that her soles never had been ticklish. Flexing the foot sharply caused pain in the calves. There was no faradic reaction in the leg muscles to a current of moderate strength; further electrical examination was desisted from.

Soon the hands claimed principal attention. Great pain appeared in the wrists and left shoulder, a burning sensation in the hands and forearms. For a time the wrist and one finger-joint were somewhat swollen and tender. Atrophy of shoulder, forearm and thenar muscles occurred; later the back of each hand became puffy. The temperature during the worst period of this attack ranged from $100\frac{3}{4}^{\circ}$ to $101\frac{3}{4}^{\circ}$. She could not lie long in one position with comfort, yet any even passive change, as the lifting of a hand, caused suffering. The digestive and excretory functions remained good, except at first some constipation, and so long as the fever continued a corresponding loss of appetite. She was hardly able to sleep at all, and none of the usual narcotics were of avail.

A few days at the end of May she improved, then sat awhile in a low basement and developed a relapse. This time the calves became so wasted, that one might wonder at the preservation of any motility about the feet. The backs of the feet became puffy, worse of course on trying a sitting posture. During the latter part of the febrile stage and for quite a time after, she complained of continued chilliness, although in a warm room and with ample covering. This sensation may perhaps have been due to the loss of sleep and flesh and the free perspiration.

Here, as occasionally observed in these cases, there were some mental symptoms, in fact so marked that her friends feared she was losing her mind. These were obstinate insomnia, restlessness, over-anxiety about trifles, fretfulness, despondency, at times an almost complete loss of memory, some delirium, etc.

Of all the drugs used, the antimalarial and antirheumatic had no special effect; but considerable relief seemed to follow frequent small doses of antipyrin.

Last seen September 24th.

She still presents ample evidence of her trouble. Can now sleep a few hours at a time. Has considerable pain in the shoulder, and, on rising, in the hips. The lower extremities show the most improvement. No complaint of abnormal sensations below the hips. No longer any swelling of the feet, though she walks about some. The muscles of the legs have filled up fairly, though still soft. The upper extremities have not recovered as much. The left is still, in nearly all respects, worse than the right. The fingers cannot be fully extended, and when this is attempted, they show tremor.

She complains of numbness in the tips of both little and both ring fingers, a slight impairment of the sense of touch being demonstrable. The balls of the thumbs are somewhat fuller than at one time, but still much shrunken and folded. The muscles of the forearm, evidently those supplied by the median, are greatly atrophied. The deltoids are also atrophied, especially the left, and abduction of the elbow is correspondingly limited. The remaining arm muscles, though much reduced, still act. The skin over the backs of the hands is smooth (glossy), thin, and inclined to puffiness toward night. The mental troubles have partly but not wholly disappeared. At no time did I find any albuminuria.

This account is faulty in some particulars, but it is certainly sufficient to justify the diagnosis. As a cause we have the erysipelas poison, with continuous high fever of nearly a week's duration, acting on a person whose nervous system was already impaired. Probably in these cases it is the toxic material causing the fever, rather than the fever itself, that brings on the nerve trouble.

Whilst many of the cases of neuritis, reported as sequelæ of other

disorders, are but partial and limited, this belongs to the type multiple. That a more limited form of neuritis may also result from erysipelas seems to be shown by the following case, kindly related to me by Dr. Rogers of this city. A locomotive engineer, thirty-three years old, burned his elbow superficially two years since. Only machinery oil was applied. At the end of three days he had a sharp chill, and twenty-four hours later presented a typical erysipelas, starting from the burn. This extended half way up the arm and down nearly to the wrist. A little pus was discharged near the original wound, four or five days after the beginning of the somewhat phlegmonous erysipelas. In two to three weeks all had healed up, and he reported for work, but he found himself unable to fill his place. The use of the hand was impaired. He could not open the throttle, could not fully extend the fingers nor flex the thumb on the palm. At this time he was having so much pain in the extremity that morphine was repeatedly taken at night. There was considerable atrophy of the forearm muscles. He had not fully recovered the use of the arm when last seen three months ago, though he was again able to manage his engine.

ILLUSTRATIONS OF THE HISTOLOGIC CHANGES OF THE NERVOUS SYSTEM IN LEPROSY.

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A paper with microscopic demonstrations read before the Medical Microscopical Society of Brooklyn, May 4th, 1887.

MR. PRESIDENT AND GENTLEMEN :

Owing to the kindness of my friend Dr. Arnold, of the Kings County Hospital, who kindly sent me the spinal cord, medulla oblongata, some of the peripheral nerves, and small portions of the kidney, liver, heart, etc., from a case of leprosy, I am enabled to present to you to-night sections illustrating the microscopic changes which have taken place in the peripheral and central nervous system in this disease.

Unfortunately for myself, I never saw this patient during life. I therefore have no history of the case, and am unable to tell you if the case were of the anæsthetic, the tuberculous, or the mixed form. I am inclined, from what I have heard of the case, to think it was of the mixed form—tuberculous and anæsthetic combined. There is no question as to the case having been one of leprosy, as it had been seen by a

number of physicians competent to decide, among them Dr. Sherwell. Without going into any great detail, a brief sketch of the disease may be of interest to you before examining the microscopic specimens.

At the present time, leprosy is observed in Norway, the Sandwich Islands, to some extent in most of the West India Islands, and the East Indies. In this country it is found in Louisiana, California, Nebraska, Wisconsin, and Iowa, among the settlements of Norwegian and other emigrants; and isolated cases are found in the large cities of the Northern States, the disease having been contracted usually while residing in some locality where the disease prevails.

Briefly, the symptoms are: pain, shooting in character, tingling and pricking sensations in the hands and feet, chilly sensations and flashes of cold and heat. These symptoms are common to the three forms. Soon there appear the skin disturbances, which differ in the two principal varieties, but which I shall not speak of, as it is out of my province and can be found fully described in works on diseases of the skin.

The question of etiology has of late years attracted much attention, and numerous contributions have been made to the subject.

The questions under consideration are:

1st. Is leprosy hereditary?

2d. Is it contagious?

3d. Can it be communicated by inoculation to man and animals?

Daniellson and Bock consider the disease hereditary. Zambaco saw infants from leprous parents born with leprosy.

Goldschmidt (*Berlin. Klin. Woch.*, 1884,) thinks heredity is the only clear etiological factor. Transmission is more marked on the maternal side, and it affects sometimes the direct line, sometimes the collateral line. These cases are, however, susceptible of another explanation.

There are many more supporters of the theory of contagion.

The discovery of the *Lepa Bacillus* by Hansen, in 1880 (*Quarterly Journal of Microscopical Science*), has added quite an additional interest to the subject; Hansen, who had large opportunities for observation, is not a believer in the theory of heredity, and thinks that if the condition were due to a degeneration, the people of Norway would show evidences of it; but it is otherwise, as they are stout, healthy-looking people. Although proof, he says (writing in 1884), is well nigh impossible, it is very probable since the discovery of the bacillus. The habits of the people also tend to support this view—lepers and healthy people associating together, cohabiting together, using the same vessels, smoking the same pipes, etc.

Leloir (1885) believed the condition dependent upon bad hygienic surroundings of those cases occurring in Italy; but he does not commit himself to the theory of contagion. It has been shown however by

Hansen that the disease occurs in Norway, in the rural districts, where the bad hygienic conditions of cities would be wanting.

Vidal believes that contagion may occur through the pus and blood of the ulcerations.

A case of what would appear to be contagion is reported by Hatch in the *British Medical Journal*, 1886. A young student, in making an autopsy in a case of leprosy, cut his finger. Some time after, he began to have symptoms of leprosy, and a diagnosis of that condition was made by Dr. Carter who saw him. Two years after, the young man said he felt as well as ever he did. The record in this case is however imperfect.

Since the presentation of this case to the society, many articles have appeared bearing upon the question of contagion, and of such importance that they will be briefly noted now.

In the *British Medical Journal*, Nov. 12th, 1887, an editorial article appears on "The Spread of Leprosy." This editorial is brought out by the appearance of a letter from Archdeacon Wright in the *London Times* calling upon the Government to have a return made of all lepers, and their isolation from the healthy. The alarm for the public welfare, on the part of Archdeacon Wright, appears to have been brought about by the appearance of a paper by M. Besnier before the Académie de Médecine, Oct. 11th, 1887. The original publication, which I have not seen, but a partial translation, appears in the *Philadelphia Medical Register* for Dec. 10th, 1887. It is entitled, "The Nature, Origin, and Propagation of Leprosy." This is a strong argument in favor of the theory of contagion. Without taking up space to make quotations from this article, I will quote one case which is strong evidence in favor of this view. "In 1872, Dr. Hawtrey Benson (*Dublin Journal*, June, 1877,) showed to the Society of Medicine in Dublin an Irish leper, who had contracted the disease in India, where he had lived twenty-two years. For a year and a half the brother of this man, who had not left Ireland except to go to America forty six years previously, slept in the same bed with the leper and wore his clothes; he became leprous, and was shown to the same society of medicine. There had not been any lepers in the family, and leprosy had been extinct in the British Isles for several centuries."

In the same journal (*Philadelphia Medical Register*, Dec. 10th, 1887,) is the notice of a lecture on leprosy by Dr. Joseph Bechtlinger, of Panama, where he has had large opportunities of observing lepers; he is evidently in favor of the theory of contagion. He said that thousands of cases of contagion had been reported from all quarters of the globe. He stated, however, that contagion was not an invariable result of contact with lepers. He had seen two children in a family who were lepers, and two other children in the same family who were not. He thinks that some people are predisposed to it, while others are not.

The writer of this paper has seen in the West Indies a leprous girl, the member of a family in which there were three or four other children, none of which had leprosy. This is not evidence, however, of non-contagion, especially when the long period of incubation in some cases is taken into consideration; and there must certainly be a predisposition on the part of some to be infected as Dr. Bechtinger thinks, and with which I entirely agree, while other persons do not contract the disease so readily.

Dr. Hillebrand (quoted in the editorial in the *British Medical Journal*, Nov. 12th, 1887) gives a case from Borneo. A white boy playing with a colored leprous child, thrust a knife into the anæsthetic part of the body, and out of foolish bravado did the same with the knife on his own body. After this he left for Europe, where he grew to maturity, and nineteen years afterwards he developed the disease and became a confirmed leper. Other cases showing the very great length of the period of incubation are given.

Can the disease be communicated by inoculation to man and animals? All attempts up to this time at inoculation have failed. During the experiments of Dr. Arning, he discovered that the bacillus appears to multiply in the bodies of dead lepers months after they have been buried.

The theory of contagion is rapidly spreading, and almost everybody is in favor of the isolation of these lepers. Dr. Hillis, of British Guiana, thinks these diseased persons should not be granted passes from the leper asylums, so as to avoid a possible spread of the disease.

An examination of the central and peripheral nervous system in my case shows, as you will see under the microscopes, no marked changes in the spinal cord; and as the specimens were hardened in alcohol, I shall not attempt to give any description of fine changes observed. The peripheral nerves show an amount of induration which is in marked contrast with normal nerves. It was possible to make thin sections of these nerves, owing to this induration, without any imbedding in gum, and which cannot easily be done with normal nerves. Interstitial and perineuritis were found everywhere in a marked degree. The epineurium and perineurium were very much increased, so as to encroach very much on the nerve bundles; and this connective tissue, instead of having the somewhat loose appearance seen in the normal state, is very dense. There is also a remarkable absence of fat among the nerve bundles. With a higher power, it is seen that few nerve tubes are left, in fact it is almost impossible to find one with a vestige of myeline. Here and there in the section a solitary axis-cylinder is to be seen, quite devoid of myelinic covering. There is a large increase of nuclei in the connective tissue around the nerve bundles, and the nuclei in the sheath of Schwann are

increased in size and have apparently undergone division in some instances.

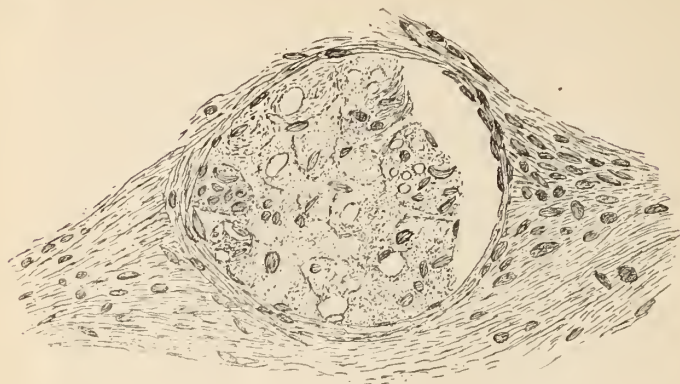


FIG. 1. (*Varick, No. 7. O 3.*)—Showing the great increase of connective tissue around a small nerve bundle, and the large increase of nuclei.

In the centre, originally the seat of the nerve tubes, is now seen a mass of lepra cells with nuclei. In this particular bundle not an axis-cylinder was to be seen. The nuclei in this central mass are in the sheath of Schwann, and in the lepra cells.

If a small nerve bundle be examined carefully, it is found to be filled with a large number of irregularly shaped bodies massed somewhat closely together. These bodies have nuclei in them which are sharply stained with hematoxylin. There are also numerous cavities and vacuoles in them. In a very thin section (see Fig. 1), it is not possible to clearly make out the border of each of these cells; but in places where a section has been torn, owing to its being very thin, the irregular outline of these bodies can be clearly made out. These bodies are the so-called lepra cells first described by Virchow.



FIG. 2. (*Varick, No. 7, O 3.*)—Isolated lepra cells, with vacuoles and nuclei.

Sections of these nerves and the spinal cord, which were stained by Dr. Bates to bring out the bacillus, showed them everywhere. Some sections of the skin showed them in abundance. The changes found in the peripheral nerves were also found in the optic nerve, and the eyeball was completely shrunk. Sections through the liver showed a very

great increase of the connective tissue, squeezing out the liver cells. Macroscopically, the liver presented the appearance of the so-called hob-nail liver. The bacillus was not sought for in this organ.

A much more satisfactory histologic examination could have been made had I had the specimens at the moment of their removal from the body and before they had been placed in alcohol. In all histologic work on the peripheral nervous system, the nerves should be treated with osmic acid.

The disturbances of sensibility which occur early in the disease are due to changes in the peripheral nerves, neuritis and perineuritis. These changes were first described by Virchow, and have been found by every observer since—Carter, Bergman, Neuman, Simon, etc.

Daniellson and Bock were the first to describe alterations in the spinal cord and its membranes. They found sclerosis with atrophy, rarefaction of the ganglion cells. In some cases the atrophy was very marked. They also observed exudative changes in the brain, about the cranial nerves.

Twenty years after Steubner found colloid changes in the vessels. In 1875, Langhaus found a softening of the posterior horns, and of Clark's columns. These changes were found mainly in the cervical and dorsal region.

Tschirjew, in 1879, also found changes in the posterior columns of the cord.

Rosenthal has recently found changes in the same part of the cord, and considers the disease as a myelitis of the posterior horns. In 1881 (*Archiv. de Physiologie*), Dejernie and Leloir gave a description of a case in which no changes whatever were found in the spinal cord. The peripheral nerves showed a parenchymatous neuritis. In 1882 (*Archiv. de Physiologie*) there appeared an elaborate article on the changes in the nervous system in leprosy, by Dr. Huggard. His observations are in the main in conformity with those of other writers. Time will not admit of further reference to this and other articles, or to a description of the invasion and location of the bacillus in various organs of the body.

A CASE OF LAPAROTOMY FOR EXTRA-UTERINE PREGNANCY—RECOVERY.

BY GEO. R. FOWLER, M.D.,

Surgeon to St. Mary's Hospital and to the Methodist Episcopal Hospital, Brooklyn.

Read before the Brooklyn Surgical Society, January 5, 1888.

On November 20, 1886, I was asked by Dr. Barlow, of this city, to see with him Mrs. B., who was suffering from an abdominal tumor and symptoms of septicæmia. She gave the following history.

About a year and a half before she first noticed an enlargement of the abdomen, which continued to increase until it had attained the size which it presented at the time she consulted Dr. Barlow, about that of a pregnancy at full term. The tumor, at the time of my visit, occupied the right iliac fossa and extended upward to about three fingers breadth above the line of the umbilicus. It had a semi-elastic feel, and was somewhat movable. No fluctuating wave upon percussion could be detected, although the feeling of elasticity was well marked. Here and there over its surface could be detected a nodulated condition. Examination *per vaginam*, showed the uterus crowded well over to the left, and empty. To the right of the uterus the tumor could be felt occupying the site of the right broad ligament. The sensation conveyed to the touch was precisely that noticed in the external manipulation, *i. e.*, a semi-elastic feel, with nodulated portions. No clear history could be obtained from the patient at this time as to the menstrual function during the early stages of growth of the tumor, but latterly, she was very positive everything had been "quite regular" in that respect. The patient was having irregular chills, with exacerbations of fever, and was evidently the subject of a septic infection. Suspicion was aroused of the existence of a suppurating ovarian cystoma, or a fibro-cystic tumor of the right ovary, and an operation urged upon the patient and her friends. To this she consented; and on November 23d, assisted by Drs. Barlow, Beasley and Hoxsie, I performed a laparotomy for her relief.

After making the usual four-inch median incision, the tumor readily presented itself to view, but seemed intimately adherent to the uterine tissues. The nodulated feeling before described was now more marked, and I had no difficulty in distinguishing through its very thin enveloping sac the limbs and head of a child at the seventh month of pregnancy. After crowding the tumor well up into the incision, an attempt was made to empty it of its fluid contents by means of Spencer Wells' trocar. The latter soon became choked, however, and this attempt was abandoned. After packing warm sponges in the incision between its edges and the walls of the sac, a free incision was made into the latter,

and about a half gallon of the most horribly offensive fluid and debris escaped. In spite of every precaution taken to prevent it, a considerable quantity of this highly septic material entered the cavity of the abdomen. A gallon of a hastily prepared hot solution of hydronaphthol, of the strength of about 1 to 1,000 was poured at once into the peritoneal cavity, and the operation proceeded with. The remainder of the contents of the sac, consisting of the putrefying products of conception and the funis and portions of placenta, were turned out. All adherent portions of the latter were carefully avoided and allowed to remain. The sac, as far as could be ascertained, was made up of folds of the broad ligament of the right side. In several places it was exceedingly thin—almost diaphanous, and undoubtedly would soon have ruptured.

The edges of the opening in the sac were stitched to those of the incision in the abdominal wall, and both the peritoneal cavity, as well as that of the sac itself, thoroughly flushed again and again with a hot solution of hydronaphthol. This solution, made in the hurry of the moment and necessarily not very accurate, contained more or less free undissolved hydronaphthol. Inasmuch as I was unable to thoroughly empty the cavities of this solution without greatly prolonging the operation, I felt compelled to leave a very considerable portion of it behind, particularly in the case of the peritoneal cavity. This occasioned me some mental uneasiness at first, but the subsequent history showed my fears to be groundless.

A drainage tube was placed at the lower angle of the wound communicating with the cavity of the abdomen; the cavity of the sac gaped sufficiently for purposes of drainage, and the drainage here was omitted. Large compresses of paper wool dressing were applied, and the patient put to bed. She was placed upon her side in order to favor the draining away of the hydronaphthol solution unavoidably left in the abdominal cavity.

Nothing untoward occurred in the after history of the case. The patient progressed uninterruptedly to recovery, the temperature never reaching 100° F, nor the pulse exceeding 120. The drainage tube was left in place for four days, and occasional irrigation of the interior of the sac, from which the child had been removed, practised. Small portions of debris, probably the remains of the placenta, came away during the first few days, but these gradually ceased; in the course of a fortnight the cavity of the sac had contracted to such an extent that its posterior wall, presenting a clean, healthily granulating surface, became visible through the wound. In about three weeks the patient was discharged, and in a month from the operation she was out shopping.

I subsequently learned that the patient had purposely withheld from us, for reasons best known to herself, certain facts occurring in the early history of the growth, which would have pointed indubitably to the existence of pregnancy.

AN INTERCHANGEABLE SYSTEM OF METRIC MEASURES.

BY JOHN M. HUGHES.

[Read before the Kings County Pharmaceutical Society, December 13th, 1887.]

Mr. President and Gentlemen of the Kings County Pharmaceutical Society:—Leaving aside the interchangeable features, the subject of this paper, which I am about to read, is one that has been discussed so frequently during the past ten years that I feel as though I were expecting too much from you to listen to what I have to say regarding it.

All these discussions were brought about by the proposition to introduce into the United States the decimal or metric system of weights and measures, or, rather, to substitute this system for those now in use, namely: the Troy system, which is used by physicians when writing prescriptions, and by pharmacists when compounding prescriptions and their various preparations. Also the Avoirdupois system of weights and the liquid measures, which is used in all commercial transactions.

In the many articles written upon the subject, and published in the press and in the journals devoted to the sciences, many of which I have read, the opinion seemed to prevail that, without some modification or some method by which the objectionable features of the system could be overcome, the introduction of the metric system of weights and measures into the United States might be considered not only an unnecessary undertaking, but one that is practically impossible. Not that anything practical is impossible, but because the people themselves will not take the trouble to acquaint themselves with the merits of the system nor with the principles involved, which is to advance toward the unification of all measures throughout the world. The metric system, however, continues to have its advocates, and there are physicians who prescribe according to its rules; and, although pharmacists, as a rule, understand the system and are capable of compounding medicines when prescribed according to the metric rule, the general public are almost totally ignorant of everything concerning the subject. The agitation, however, goes on, and the subject is still open.

From a paper on weights and measures, read by Alfred B. Taylor, A.M., Ph.M., at the Cincinnati meeting of the American Pharmaceutical Association, I quote this sentence: "The failure that attends the introduction, and the objections that have so far prevented the adoption of the metric system in Great Britain and the United States, notwithstanding the most strenuous and persistent efforts on the part of its advocates, sufficiently attest the need of some other scheme, which, while possessing the advantages claimed by that, may be free from its disadvantages and defects."

And it was for the purpose of overcoming these defects, which all who have studied the subject can perceive, that I endeavored to construct an interchangeable system of weights. And having accomplished this, to my own satisfaction at least, I concluded then that I would invent a complete interchangeable system of measures, including not only solid and liquid measures, but lineal measures, as well as a system of reckoning time and a reconstruction of the calendar, all derived from one unit, the *Metre*.

I will quote once more from the paper read by Mr. Taylor.

“Any comprehensive and strictly philosophical system can have but one unit, which must give law throughout. That unit will be most naturally a lineal measure; and whatever its derivative, when a change is made, the coincidences between the old and the new ratio will necessarily be rare. All that can be done is to choose such a unit as will produce the most of these.” This paper is published in the *Druggists' Circular* for October, 1887, and I would advise all who have not done so and who are interested in the subject to read it, as the author has therein compiled in an interesting and able manner the opinions of statesmen, of commissioners appointed to report on the subject, as well as giving an insight into the several modified systems that have already been published.

It is not my purpose to criticise the work that others have done in this direction, for I hold that all who may have an opinion or an idea that can in any manner assist in simplifying the problem, should make it known; for however slightly we may think or speak on the subject, it is one of the most serious problems that has ever come before the people.

Nor is it my intention to submit any arguments either in favor of or against the metric system. Whatever arguments I may present are not submitted to condemn this system, but to show the difficulties which surround its introduction into the United States. And here I may say that one reason why I think we cannot, or rather do not, readily comprehend the metric system is on account of our peculiar way of reading decimals; for we as a people are accustomed to writing dollars and cents, and we write, say: one dollar and twenty-five cents (\$1.25), we place the decimal point between the dollar and cents, but the mills we never take into account, because less than ten mills never enters into any ordinary business transaction. So that if we add a cipher to the sum just written, it will be increased one thousand times, thus: \$1.250, which if written according to the decimal system of notation—I am not speaking of the metric system now—if we wrote, say: one and twenty-five one hundredths (1.25)—call it grammes if you choose—and if we add a cipher to that sum, as we have in the other example (1.250) the sum is

not increased at all. We still say one and two hundred and fifty one thousandths. So you perceive that the rule for writing decimals is not strictly adhered to when writing dollars and cents.

But notwithstanding the fact that so many minds have been active for so many years in trying to simplify the problem, none, so far as I have been able to inform myself on the subject, have attempted to modify the systems so as to make them interchangeable, the one with the other; for this method is, in my opinion, the key to the solution of the problem.

In this endeavor to unify all measures, it is agreed that the unit of one measure must be the source from which all other measures are derived, and it matters not by what name you give this unit; you may call it the metre, or call it the yard, or call it a stick if you like, so long as it possesses all the qualities required of a unit, you may call it by what name you choose. But this unit must be a unit of time, for if we change the length of the mile, we must also change our system of reckoning time to conform to it. We now reckon 60 geographical miles, or $69\frac{1}{2}$ statute miles make one degree, but if we adopt one unit for all measures, and if by that unit the length of the mile is increased or diminished, our system of reckoning time must also be changed to suit the unit, or a unit must be found to suit time; for whatever unit may be adopted, if it does not possess this qualification it fails to be the unit for all; for we would still have to maintain the same system for measuring by geographical miles, and this is done in strict conformity with our system of reckoning time. And this reckoning is based on the division of the circle into 360° , and this division is universal. It is by this measurement that time is reckoned all over the world. It is the measure by which the mariner reckons the latitude and longitude, and whatever unit may be adopted must give to the mariner and to the world a system of time at least as good as the system now in use; for time is as susceptible of being measured as anything else, and as it enters into every act we perform, and as every thought that enters into our mind occupies a period of this unknown commodity, in selecting a unit time must be included.

At present we have one unit for lineal measure, another for measures of weight, another for measures of capacity, and still another lineal unit for measuring latitude and longitude, which unit is also the measure of time as now reckoned.

But let us examine our yard-stick and see what we may infer from it. It is divided into three equal parts called feet, and each foot is divided into twelve inches, making thirty-six inches in the yard. Now these divisions were not accidental, nor were they made by haphazard or guess-work, but the fact that it is so divided shows a design in its construction;

for the yard, in my opinion, was intended to represent the thirty-six millionth part of the circumference of the earth, the circumference of the earth being equal to 36,000,000 of geographical yards; and the inch, the thirty-sixth part of the geographical yard, equals the thirty-sixth part of the thirty-six millionth part of the circumference of the earth; and each of these divisions has a particular relation to the system of reckoning time.

Now, they who devised the yard knew well the measurement of the meridian, but they found that the unit—the geographical yard—(43.745 inches) was too long for practical usage; and, having come to this conclusion, what would they be likely to do under the circumstances; would they take any stick at hand and break it at any length that chanced, and say: "There, that is about the right length. Now we will divide this into three equal parts, which we will call feet, and each foot we will divide into twelve equal parts, which we will call inches." Would they be likely to do this without having a design? or would they take a fractional part of what they knew to be a true unit, and make a copy of this on a reduced scale? Let us see. This stick represents a geographical yard—and I may say that none of these measures which I exhibit are absolutely accurate; they are sufficiently so, however, for the purpose of illustration (this yard is equal to 43.745 inches), and is equal to the thirty-six millionth part of the circumference of the earth. Now, supposing we take a fractional part of this unit, say thirty geographical inches, the yard being equal to thirty-six, here it is cut to that measure. If we now compare this measure with our standard yard, we find it to be about one-half inch longer (0.45 inch) than the standard yard. But the original English yard was derived from a comparison of the Roman, the French and the English measures in use about two centuries ago; what the length was, is not known now, and the proofs which were derived from these measures "were lost or destroyed by fire." The yard measure now in use owes its origin to the length of a pendulum beating seconds, under conditions which it is unnecessary for me to explain.

If the geographical yard be divided into thirty-six equal parts called inches, the standard inch being one (1), the geographical inch will equal 1.215 inches; and as there are thirty geographical inches in that portion which we cut from the geographical yard, then 30×1.215 equals 36.45 inches, or about one-half inch greater in length than the standard yard. Now, if this portion which we have cut from the geographical yard be divided into three equal parts or feet, each foot would equal ten geographical inches; but instead of retaining the inch as in the original unit, it seems evident that a reduced copy of the original was made, and perhaps for good reasons.

You may draw what conclusions you choose from this, but the

impress of its origin is stamped upon it, and it is reasonable to suppose that the metre and the yard were both derived from the same source.

As you are all familiar with the manner in which the metre was obtained, it is unnecessary for me to say more than to remind you that it is equal to the ten millionth part of the quadrant and, consequently, to the forty millionth part of the circumference of the earth, measured on the meridian of Paris.

"The cube of the tenth part of the *metre* was denominated *litre*. The weight of water which this cube is capable of containing was called *kilogramme*, of which the thousandth part was adopted as the unit of weight under the name of *gramme*. The terms deca, hecto, kilo, from the Greek numerals, are used to increase the units in a decimal ratio, whilst the terms deci, centi, milli, from the Latin, serve to decrease the sum in like manner."

The length of the *metre* is said to be equal to 39.371 inches. None of the original metres, made and certified to, are equal to these figures; but assuming that the *metre* is equal to 39.371 inches, I have made all my calculations according to this standard.

I quote from the U. S. Dispensatory, 14th edition :

"Though the decimal system of weights and measures was established by law in France, it was found impossible to procure its general adoption by the people, who obstinately adhered to the old *poids de marc* and its divisions."

* * * * *

"To obviate this difficulty, the Imperial Government legalized the employment of the half kilogramme as the unit of weight, under the name of pound, and allowed this to be divided into half pounds, quarter ounces, eighth ounces, etc., as in the old *poids de marc*. The new pound is distinguished by the name of metric pound, * * * so that these systems are now more or less in use in France—the original *poids de marc*, the decimal system, and the metric pound with its divisions."

Relying upon these statements, it is not too much to repeat that, in order to introduce into the United States a new system of weights and measures, a sacrifice or compromise of some kind must be made.

What sacrifice, then, can be made which will cause the least confusion and yet accomplish the desired result?

First, let us imagine the total annihilation of all our weights and measures. We must now invent a new system. We will retain the old names of pint, pound, ounce, yard, etc., in fact, we will retain the same old system, and the new weights will agree as near as possible with the old; but we make them so as to be interchangeable with the metric system.

We know the length of the *metre* to be equal to 39.371 inches. Let

us make the *metre* the unit, and for our purpose we will call it a yard. Now, the price of all commodities sold by the yard would apparently be increased, but as the increased price would simply cover the increased quantity, neither the purchaser nor dealer could complain.

The following are the tables of lineal measure :

Twenty-five millimetres make one inch,	- - -	.025
Ten inches make one foot,	- - - - -	10
equal to two hundred and fifty millimetres,	- -	.250
Four feet make one yard,	- - - - -	4
equal to one <i>metre</i> , or 1,000 millimetres,	- -	1,000
Five yards make one rood,	- - - - -	5
equal to 5 metres, or 5,000 millimetres,	- - -	5,000
Forty roods make one furlong,	- - - - -	40
equal to 200 metres, or 200,000 millimetres,	- -	200,000
Eight furlongs make one mile,	- - - - -	8
equal to 1,600 metres, or 1,600,000 millimetres,	- -	1,600,000
Twenty-five thousand miles,	- - - - -	25,000
equals the circumference of the earth, forty millions of <i>metres</i> ,	- - - - -	40,000,000
Sixty-two and one-half metric miles, or sixty geometric miles, make one metric degree.		

Perhaps the following table would be preferred :

10 inches make one foot.
4 feet make one yard.
—
40
5 yards make one rood.
—
200
40 roods make one furlong.
—
8000
8 furlongs make one mile.
—
64000 Sixty-four thousand metric inches in one metric mile.

To reduce any of the above terms to decimal parts, divide the term by 40.

Example: How many metres are there in 8,000 metric inches?
 $8000 \div 40 = 200$ metres.

To reduce the metric terms to inches, multiply the term by 40.

Example: How many inches in twenty-five centimetres? $.025 \times 40 = 1.000$. One inch is the answer.

By a comparison with the standard measure, the metric inch would be about $\frac{1}{70}$ of an inch less than the old inch; the foot would be about $\frac{1}{7}$ of an inch less than the old foot; the yard would be about $3\frac{1}{2}$ inches

greater than the old yard; the rood would be about 1 inch less than the old rood; the furlong would be about 45 inches less than the old furlong; and the mile would be about 30 feet less than the old mile.

MEASURES OF WEIGHT.

We are aware that the *gramme*, the *metric* unit of weight, is equal to 15.434 Troy grains. We will make the *gramme* the unit of our new weights, and for this purpose we will call it a scruple. This scruple will be about four and one-half grains less than the old scruple, but it can be divided into twenty equal parts, each part being equal to five (5) centigrammes, and each of these parts we will call a grain. This new (metric) grain will be about $\frac{2}{10}$ of a Troy grain less than the Troy grain. The value being less, physicians might continue to write their prescriptions in the usual manner, having them compounded according to the new system without materially altering the effect desired to be produced by the medicine. Take Dover's powder as an example: in every ten grains of the powder there is one grain of opium. If a physician should prescribe ten grains of the powder, intending Troy grains, and if in dispensing the prescription the metric grains were used, there would be about one-fifth less of the powder, and consequently one-fifth less opium given than was prescribed.

By this system, neither calculations nor alterations of formulæ would be necessary; by simply substituting the new weights for the old, the system is complete.

The following are the tables of weights:

Fifty milligrammes,	-	-	-	-	.050 make 1 grain.
Two grains,	-	-	-	-	2 make 1 deci.
<hr/>					
One hundred milligrammes,	-	-	-	-	.100
Ten decigrammes,	-	-	-	-	10 make 1 gramme
<hr/>					
One thousand milligrammes,	-	-	-	-	1.000
Three and a half (five-tenths),	-	-	-	-	3.5
<hr/>					
Scruples or grammes,	-	-	-	-	3.500 make 1 drachm.
Eight drachms,	-	-	-	-	8
<hr/>					
Twenty-eight scruples or grammes,	-	-	-	-	28.000 make 1 ounce.
<hr/>					
<hr/>					
<hr/>					

Four hundred and forty-eight scruples or grammes, - - - - - 448.000 make 1 pound.

Perhaps the following table would be preferred:

20 grains make one scruple.
3½ scruples make one drachm.
<hr/>
70
8 drachms make one ounce.
<hr/>
560
16 ounces make one pound.
<hr/>
8960

It will be seen by this table that there are 20 grains in a scruple, 70 grains in a drachm, 560 grains in an ounce, and 8,960 metric grains in one pound.

To convert grains into grammes, divide the number of grains by 20. To convert grammes into grains, multiply the number of grammes or milligrammes by 20.

As the value of the new grain and the scruple is now understood, the next weight in the table to be considered is the drachm, which we have made equal to three and one-half grammes (3.5). If made equal to four grammes, it would be nearer the value of the drachm weight (60 Troy grains); but its value would be too great if we made eight of them to equal an ounce, the ounce in which case would equal 493.88 Troy grains, or nearly 14 grains heavier than the Troy ounce; whereas by making the drachm equal to three and one-half grammes, and eight of these drachms equal to an ounce, the ounce then would equal 432.15 Troy grains, or about five grains (5.35) less than the avoirdupois ounce; and sixteen of these ounces will make a pound, weighing about eighty-five grains (85.6) less than the avoirdupois pound, the value of the new pound being equal to 6914.4 Troy grains, the pound avoirdupois being 7,000 Troy grains.

Practically, the physician and pharmacist require only the scruple or gramme and the grain (five centigrammes); but in all mercantile pursuits, the avoirdupois weights being in use, we make the new weights agree as near as possible with this system, the difference in the value of the two systems being so trifling that it would scarcely affect the price of any single commodity. There would be about one teaspoonful less sugar in the new pound than in the pound avoirdupois; in seven pounds, the difference would amount to about one ounce, but competition in trade would regulate these differences. There would be about twenty-four and a half pounds less coal in the ton by the new weights than by the old; but the new ton could be made equal to twenty and a quarter hundred weight; this would be a gain to the purchaser of about one-half pound in the ton, as compared with the old ton of 2,000 pounds.

Having gone through the imaginative part of this subject, it may be perceived that the weights now in use may be altered to the new system by simply filing off the excess in weight; and this is a matter that dealers would agree to more readily than if they had to make an addition to them.

MEASURES OF CAPACITY.

In speaking of these there seems to be a desire on the part of those who understand the matter, to abandon the system of measuring liquids, at least in all pharmaceutical manipulations. Whatever merit the idea

may have, it is certainly accompanied with many inaccuracies; for in whatever manner liquid medicines may be compounded, they must necessarily be administered by measure.

The following are the tables for measures of capacity :

.050	Fifty cubic millimetres make one drop.
2	Two drops make one minim.
<hr/>	
.100	
10	Ten minims make one fluid scruple or cubic centimetre.
<hr/>	
1.000	
3.5	Three and a half fluid scruples make one fluid drachm.
<hr/>	
3.500	
8	Eight fluid drachms make one fluid ounce.
<hr/>	
28.000	
16	Sixteen fluid ounces make one pint.
<hr/>	
448.000	

According to the foregoing table, a pint of water would contain 448 fluid scruples or cubic centimetres, equal to 448,000 cubic millimetres, each cubic millimetre being equal to the $\frac{1}{1,000,000}$ part of a litre, and the $\frac{50}{1,000,000}$ part of a litre will equal one drop.

Perhaps the following table would be preferred :

20	drops make one fluid scruple.
3.5	Three and a half fluid scruples make one fluid drachm.
<hr/>	
70	
8	Eight fluid drachms make one fluid ounce.
<hr/>	
560	
16	Sixteen fluid ounces make one pint.
<hr/>	
8960	Eight thousand nine hundred and sixty drops in one pint.

As the weight of one cubic centimetre of water equals one gramme (1,000 milligrammes), the weight of one cubic millimetre will equal the one thousandth part of a gramme, and fifty cubic millimetres will equal the one-twentieth part of a gramme, or five centigrammes (.05); and as we have made the grain equal to fifty milligrammes, the quantity of water which will equal that in weight, or in bulk equal fifty cubic millimetres, we will call a drop.

This is saying a good deal about a small thing, but it gives to the drop a definite volume, and in behalf of the services it renders, it deserves to be more correctly defined than it is at the present time; for, as you know, drops of the same fluid from different vials vary in bulk, and drops of different fluids from the same vial also vary in bulk. The value here given to the drop is about its real value. Two drops equal one

minim, the minim being made equal to the tenth part of one cubic centimetre, or the $\frac{1}{10000}$ part of a litre—the drop being equal in weight to the grain, the minim to the deci, the fluid drachm to the drachm, the fluid ounce to the ounce, the pint to the pound. The fluid ounce would be in weight about six grains less than the Imperial ounce ($437\frac{1}{2}$ grains), and about 25 grains less than the U. S. fluid ounce (455.7 grains). A pint of water would weigh about 373 Troy grains less than the U. S. pint, or in bulk there would be about one tablespoonful less in the new pint than in the old. A cubic inch (metric) of water would equal the one sixty-fourth part of a litre, and would weigh 15.625 grammes, equal to 312.5 metric grains, or about 241 Troy grains, a cubic (standard) inch of water being 252.745 Troy grains.

To convert the cubic millimetres into drops, multiply the decimal by 20. To convert the drops into cubic millimetres, divide the number by 20.

A METRIC SYSTEM OF TIME.

In reckoning time by the metric system, we will assume the length of the *metre* to be $39\frac{4}{1000}$ inches, if measured on the equator. It will be necessary to divide the great circle into 400 degrees (metric) instead of 360 as now divided. It will also be necessary to eliminate two signs of the zodiac; and for the purpose of explaining this problem, the signs Pisces and Libra are omitted in the metric zodiac. Beginning at the first point in Aries, each sign is equal to 30 degrees, but each metric or decimal sign is equal to 40 metric degrees, which are equal to 36 degrees, there being 12 signs in the circle of 360 degrees, and 10 signs in the circle of 400 degrees.

The earth revolves upon its axis once in a day, and the day is divided into 24 hours, each hour into 60 minutes, and each minute into 60 seconds. I propose to divide the day into 20 hours, each hour into 100 minutes, each minute into 100 seconds, and each second into 10 metres.

The following are the tables for reckoning the degrees of the circle, and of time :

DEGREES OF THE CIRCLE.

10 ⁻	Ten metres make one second,	-	-	-	1"
100					
1,000	One hundred seconds make one minute.	-	-		1
100					
100,000	One hundred minutes make one degree,	-	-		1°
40					
4,000,000	Forty degrees make one sign,	-	-	-	1 ^s
10					
40,000,000	Ten signs make one great circle, forty millions of metres.				

DEGREES OF TIME.

$\frac{10}{100}$	Ten metres make one second,	-	-	-	1"
$\frac{1.000}{100}$	One hundred seconds make one minute,	-	-	-	1'
$\frac{100.000}{20}$	One hundred minutes make one degree,	-	-	-	1°
2,000,000	Twenty degrees make one hour of time,	-	-	-	1h

Thus, two millions of metres make one hour of time.

DIVISION OF TIME.

$\frac{10}{100}$	Ten metres make one second,	-	-	-	1"
$\frac{1.000}{100}$	One hundred seconds make one minute,	-	-	-	1'
$\frac{100.000}{20}$	One hundred minutes make one hour,	-	-	-	1h
2,000,000	Twenty hours make one day,	-	-	-	1d

Thus two millions of metres of time make one day. It will be perceived that in one metre (1) of time the earth revolves upon its axis at the equator, a distance of 20 metres; in a second (1) 200 metres; in a minute (1) 20,000 metres; in an hour, 2,000,000 metres; and in a day, $2,000,000 \times 20 = 40,000,000$ metres, which is equal to the circumference or to one revolution of the earth.

In reckoning time according to the metric system, it would of course necessitate the alteration of all clocks and watches; this however would be neither difficult nor expensive; the problem is a simple one.

There being sixty minutes in an hour, and twelve hours represented upon the dial, there are $12 \times 60 = 720$ minutes represented upon the dial. If we now divide the dial into ten equal spaces representing hours, each hour would be equal to 72 minutes. The metric hour, therefore, would be 12 minutes longer than the hour as now reckoned. In clock time, the hour hands in both systems would move at the same speed; but the minute hands of metric clocks would move slower than the minute hands of the present timepieces, occupying 72 minutes to move round from one point on the dial to the same point again. The dials of all clocks are divided into 60 equal spaces representing minutes; the dial of a metric clock would be divided into 100 equal spaces representing metric minutes, 100 metric minutes being equal to sixty minutes as now reckoned.

On a metric clock the hands would point at, say a quarter past the noon hour, it would be expressed thus: 10.25 o'clock. By the present

system the same time is expressed thus : 12.15 o'clock ; not fifteen one-hundredths, but fifteen sixtieths of an hour.

I know that this particular part of the subject is difficult to comprehend ; but I desire to make it clear to you, so that its accuracy cannot be questioned ; for, if there is a single flaw in the metric system of reckoning metric time, the *metre* as a unit is false, and all systems derived from it must fail, for time reckoning is the test to which all measures must be subjected before the claim can be made that "this is the unit for all." Now, let us compare the two systems of time reckoning. By the present system we have 360 degrees, and by the metric system we have 400 degrees in the circle. By the first scale (360°) there are 36,000,000 of geographical yards in the circumference of the earth ; by the second scale (400°) there are 40,000,000 metres in the same circle ; the relation between the two being as 9 is to 10. By the first scale the earth revolves upon its axis, in one hour at the equator, a distance of 15 degrees, there being 60 geographical miles in each degree : $15 \times 60 = 900$ geographical miles, equal to 1,500,000 geographical yards ; and as there are 36,000,000 of geographical yards in 360 degrees, there are 100,000 geographical yards in 1 degree, which is equal to 60 geographical miles ; and 1 geographical mile is therefore equal to $100,000 \div 60 = 1,666.66$ geographical yards.

In reckoning by the second scale (400°) we have 60 geometric miles in one metric degree, and 20 metric degrees make one metric hour, and the distance which the earth revolves in that time (72 minutes) is $60 \times 20 = 200,000$ of metres. And as 40,000,000 of metres equals 400 metric degrees, there are in one degree 40,000,000 divided by 400 = 100,000 metres, which are equal to 60 geometric miles, and one geometric mile is therefore equal to $100,000 \div 60 = 1,666.66$ metres, Rather a singular coincidence.

As there are 100,000 metres of time in one metric hour, and as you understand that the earth revolves 2,000,000 metres in that time, it will revolve 20,000 metres in one metric minute, and 200 metres in one second, and

20. metres in one metre of time,	-	-	-	-	1.
2. metres in one-tenth of a minute of time,	-	-	-	-	.1
1. metres in five one hundredths of a metre of time,	-	-	-	-	.05
.1 of a metre in five one thousandths of a metre of time,	-	-	-	-	.005
.01 of a metre in five ten thousandths of a metre of time,	-	-	-	-	.0005
.001 of a metre in five one hundred thousandths of a metre of time,	-	-	-	-	.00005

Now the circumference of the earth equals 40,000,000 metres ; by adding three ciphers we obtain the number of millimetres, which is 40,000,000,000, and as the earth revolves one millimetre in five one hundred thousandths of a metre of time, the time it takes to make one revolution may be found by multiplying the two, $40,000,000,000 \times .00005 = 2,000,000$ metres of time, equal to one day.

Gentlemen, I will encroach upon your time but a few minutes more, to tell you how the calendar could be reconstructed. This change would not follow as a matter of necessity, but it would be in keeping with the system, which I have endeavored to explain.

THE CALENDAR.

A year consists of 365 days, and it is divided into 12 months, each month into four weeks, and each week into seven days. If we multiply the number of months in the year by the number of weeks, we obtain 48 as the number of weeks, there being in fact 52 weeks and one day over. Now it is singular that, although the number of months in the year is not great, there are few persons who can tell the number of days that there are in any particular month, say October, until they have first run over in the mind the little rhyme,

Thirty days hath September,
April, June and November :
All the rest have thirty-one,
Except February alone.

Then we know just how many days there are in the month.

Now, I propose to divide the year into ten months, each month to have 37 days, except December, the last month in the year, which will have 32 days, and in leap year 33 days.

Now, by this decimal calendar you know at once just how many days there are in any of the months, without any mental effort whatever. So that at the start there is one point in favor of a decimal calendar.

But in order to construct this calendar we drop the months February and August, any two months would do, but as these two months are correlative with the two signs in the zodiac which were dispensed with, we choose them on this account. The remaining ten months shall have 37 days each, except December, which will have 32 days, except in a leap-year, when it will have 33 days, the extra day being added as the last day of the month, and, consequently, the last day of the year. By this calendar the first day of the year will occur on January 1st. The first six days of February are added to January, making 37 days. The remaining 22 days of February are given to March, the 7th of February becoming the 1st of March. The 16th of March will become the 1st of April. The 22nd of April will become the 1st of May. The 29th of May will become the 1st of June. The 5th of July will become the 1st of July. The 11th of August will become the 1st of September. The 17th of September will become the 1st of October. The 24th of October will become the 1st of November, and the 30th of November will become the 1st of December.

Spring will begin April 5th, when the sun enters Aries. Summer will

begin June 24th, when the sun enters the center of Gemini. Autumn will begin October 6th, when the sun enters Virgo, and Winter will begin December 22nd, when the sun enters the center of Sagittarius. The Spring months will be April, May and June. The Summer months June, July and September. The Autumn months October, November and December. The winter months, December, January and March.

The Dominical letter for each year would follow in the same order as at present, but the letters for the months would be changed. The following are the Letters for the first day of every month in the year, as now lettered : A. D. D. G. B. E. G. C. F. A. D. E. By the Decimal Calendar, the following would be the letters for the first day of every month in the year : A. C. E. G. B. D. F. A. C. E. In leap-year the extra day being made the last day of the year, there would be but one Dominical Letter for that year. Christmas Day would be apparently set back one day, the date being changed from the 25th to the 26th of December, but it would always fall upon the 359th day of the year. As now reckoned it falls on the 359th day, and in leap-years on the 360th day of the year.

Of course the dates of all festivals and days that we celebrate would be changed, except those in January, while those in December would be set back apparently one day. But these inaccuracies would be recovered in time, and as there is no immediate likelihood of any change being made in the calendar, it is unnecessary to dwell further on the subject.

And now having said all, and perhaps more than necessary, on the subject, and after giving it the attention that I have for several years past, I am convinced that if a unit, from which all other measures must be derived, is a desirable thing, we have only these to choose from.

This, the geographical yard, a true unit, but inconvenient. There are reasons for believing that as a unit for all measures it was abandoned centuries ago, and we will set it aside now. And this, the standard yard measure, a convenient unit, or any measure which might be considered equally as convenient, we must also set aside, for the reason that, however convenient they may be for some measures, they can never become the unit for all.

In this, the metre, we find a happy medium ; for however comprehensible I have made it appear to you, I have endeavored to show that it is a true unit ; that it possesses every quality that a unit can possess ; that it is susceptible not only of decimal division, but of every division that may be required. I have endeavored to show that through it a system of weights and measures may be derived, which will be interchangeable with the metric system, and that, too, without serious disturbance or change in the nomenclature or symbols of the older system, of which the new is but a modification.

FILLING TEETH: THE MANAGEMENT OF DIFFICULT CAVITIES.

BY ALBERT H. BROCKWAY, M.D.S.

Read before the Brooklyn Dental Society, November 28, 1887.

The prevalence of decay of the teeth among civilized peoples is almost universal, and is the cause of untold suffering and disease.

Up to the present time no way has been found of arresting the ravages of decay and restoring to comfort and usefulness teeth attacked by caries except the operation known as stopping or filling. This consists in the removal of the carious portion of the organ attacked, and replacing in the cavity thus made the lost substance with some material not affected by the agents which produced the lesion, in such a manner as to hermetically seal the cavity.

This operation is one of the most difficult that the dentist is ever called upon to perform, requiring in all cases, to insure success, judgment in selecting the material to be used and manipulative skill of a high order.

To persons unfamiliar with the subject this statement will doubtless seem extravagant. Their general impression doubtless is that it is simply a matter of removing the decayed substance and packing something else into the cavity in its place, the success of the operation being in direct ratio to the cost of the material used for the purpose. Hence the request so often made by our patients that "*gold* only" be used in filling their teeth, since they wish to have them filled in the "best manner." How widely incorrect are such ideas I need hardly stop to point out at this day, and yet we must admit that they have some warrant in the teachings which prevailed in the text-books of dental practice of but a few years ago.

Dr. Harris, in his Principles and Practice of Dental Surgery, after enumerating and condemning with more or less severity all the other materials in use for filling teeth at that time, tin, lead, silver, amalgam, etc., says: "In the opinion of the author *gold* is the only material which should ever be employed for filling teeth. A tooth in almost every case may be so filled with it that its permanent preservation shall be effectually secured."

Fortunate are we of this generation indeed, that this teaching is not for us the highest truth, else how greatly curtailed would we feel our usefulness to be; how limited the number of our successful operations; and how would the course of daily practice bristle with difficulties insur-

mountable ! True, there has been given to us since the day of Harris some new filling materials and some possibly improved forms of old ones, but our present advantage has come more largely than from these, from the broader and more scientific views of the operation of filling teeth, of the causes which render it necessary, and the conditions that conduce to its success—in short, to the principle of eclecticism in the choice of materials based to a large extent on a knowledge of compatibility between the substance of the teeth and the material employed to restore its tissue.

Now what do we mean when we speak of *successfully filling teeth*, and what are the difficulties in the way of its accomplishment?

I shall not at this time inquire into the causes which produce dental caries, although this is germane to the subject, and, in my judgment, is one of the most important questions that can engage our attention ; suffice it to know that caries is alarmingly prevalent, and that our time is largely occupied in the endeavor to check its ravages and restore to usefulness the organs it has attacked. To this end, as I have already said, we have as yet discovered no better way than to replace the lost substance with some extraneous material—since the teeth possess no recuperative power like the softer tissues of the body—and experience has taught us that in making this restoration a necessary factor of success, especially when gold is employed for the purpose, is that the mechanical adaptation of the material to the walls of the cavity shall be *perfect*. More than this, we must so change the condition of the affected organ and its relation to its surroundings as to prevent a *recurrence* of the disease. Nor must we lose sight of the necessity of adopting whatever material we make use of to the varying conditions of the teeth affected, and to the æsthetic requirements of the case under treatment. This is successfully filling teeth.

Taking as the simplest example of a case those cavities which are formed in the sulci of the bicuspid and molars in teeth of the densest structure, we find that the management of cavities increases in difficulty as they vary in location or in quality of tooth structure until a point is reached where our best efforts secure but a doubtful success. That this point is sooner reached by some than by others will not be denied, since all are not equally endowed with skill, judgment and experience ; and it is in the hope that I may indicate a way of overcoming some difficulties that I speak to-night.

Were we relegated to the old methods and ideas to which allusion has been made, and deprived of the aids to our practice now at our command, comparatively small would be the chance of our bettering the practice of thirty or forty years ago ; but, fortunately, the progressive spirit of the age has placed in our hands aids, numerous and invaluable, that our fathers knew not of.

How crippled indeed should we be without the burring engine, the corundum stone, the rubber dam, the assistant at the chair, and the various concomitant appliances of modern practice! This is tempting ground, and I feel loathe to leave it, but time will not allow me to dwell on it longer; so, dropping the theoretical, let us take up the practical side of the subject, and apply modern methods to specific cases as they are met with in daily practice.

Let us take, for instance, the case described by Harris, in the work referred to, of a cavity in the lingual and posterior approximal angle of a first or second left bicuspid, especially after the loss of the tooth behind it, and there is a backward inclination of the tooth. This he well describes as a cavity "exceedingly difficult of management, especially when the mouth of the patient is so small that it, the cavity, can only be seen with difficulty." The attempt to make saving operations with gold in cavities of this character has brought no end of disappointment and chagrin to the operator and little benefit to the patient, where, had better adaptation of means to ends been shown, and the cavity filled with a good amalgam, or even with Hill's stopping, the operation would have been comparatively easy of accomplishment and reasonably certain of success.

This practice can often be applied to advantage to the distal surfaces of even the cuspids, especially where they are somewhat retracted and dominated by the adjoining bicuspid; the hidden position of the cavity, while offering a great obstacle to the introduction of proper gold filling, obviates the common objection to the use of a material less harmonious in appearance, but easy of manipulation. There is a class of cavities usually considered difficult to manage, and indeed justly so, where gold only is employed, that are particularly easy to care for by the use of amalgam. I refer to those cases where large and well made gold filling in the proximal surfaces of bicuspids and molars show signs of failure at the cervical margin after a few years' service. The attempt to repair these breaks with gold will be almost sure to result in speedy failure, no matter by whom undertaken; the removal of the entire plug and the filling of the cavity *de novo* requires much time and by no means precludes a recurrence of the trouble, while with *amalgam* the repair can be readily made, and experience seems to show that fillings so treated, possibly through some galvanic effect from the contact of dissimilar metals, are less liable to give way than as originally made. This method of treating such filling is, by our friend, Prof. Flagg, styled *guarding*, and the word seems fitly chosen. I do not hesitate to employ it upon defective fillings, even in the anterior teeth, especially in persons past middle age, where the diminished size of the teeth and the darkened complexion consequent upon age, renders the contrast between the added portion and the old filling scarcely noticeable.

It has not escaped the observation of every practitioner of experience that the superior lateral incisors, from their relatively small size, are more than any other teeth liable to the loss of the nerve from the presence of metallic fillings. Where they stand in normal position, cavities in them can be filled with gold without difficulty and with every prospect of success, but where they stand inside the line and much hidden by the neighboring teeth, as sometimes is the case, it is unwise to attempt their salvation with so intractable a material as gold. It has been my custom for some years to fill cavities in teeth so situated with Hill's stopping, or some of the plastic materials, with results that seem to fully justify the practice.

To comment upon another case from Harris, let us take those cavities which form on the buccal surfaces of the molars, particularly the second and third of the lower jaw. Where the mouth is small or the cheek quite inelastic, such cavities, especially if partly below the gum, as is often the case, are exceedingly difficult to fill properly. I have seen many gold fillings placed in such cavities, and almost an equal number of failures. Nor does amalgam seem to always serve here; of course, the oxides of zinc are interdicted from solvent power of the gum secretions upon them. Here is where Hill's stopping is very useful, and in my hands has proved the most permanent and satisfactory of any material, and, withal, the least difficult to manage.

Cavities found in the distal surface of the posterior teeth in seemingly inaccessible positions, can often be readily reached by a judicious cutting away of the disto-grinding corner of the tooth, an operation easily made with a rather thick corundum while kept liberally wet by a stream of cool water from a syringe in the hands of an assistant. It is surprising how little cutting will often be needed to bring an obscure cavity into view, nevertheless considerable cutting should be boldly made if necessary to insure access. Most of us would be likely to err from timidity in such cases.

Where another tooth adjoins the one affected, of course still further access can be obtained through separating them by proper wedging.

Not the least trying cavities to manage are those proximal ones that are formed in the temporary teeth of childhood. The broken-down condition so often found, renders it exceedingly difficult to make fillings of any kind in individual teeth, but where adjoining teeth are affected I have found no better way to treat them than to bridge over with Hill's stopping from one cavity to the other. Simple as it is, this method has proved most effective and satisfactory.

Time, however, will not permit me to continue, although the subject is by no means exhausted. The point which I have wished to make plain is, that while the saving of teeth by filling has ever been, and is

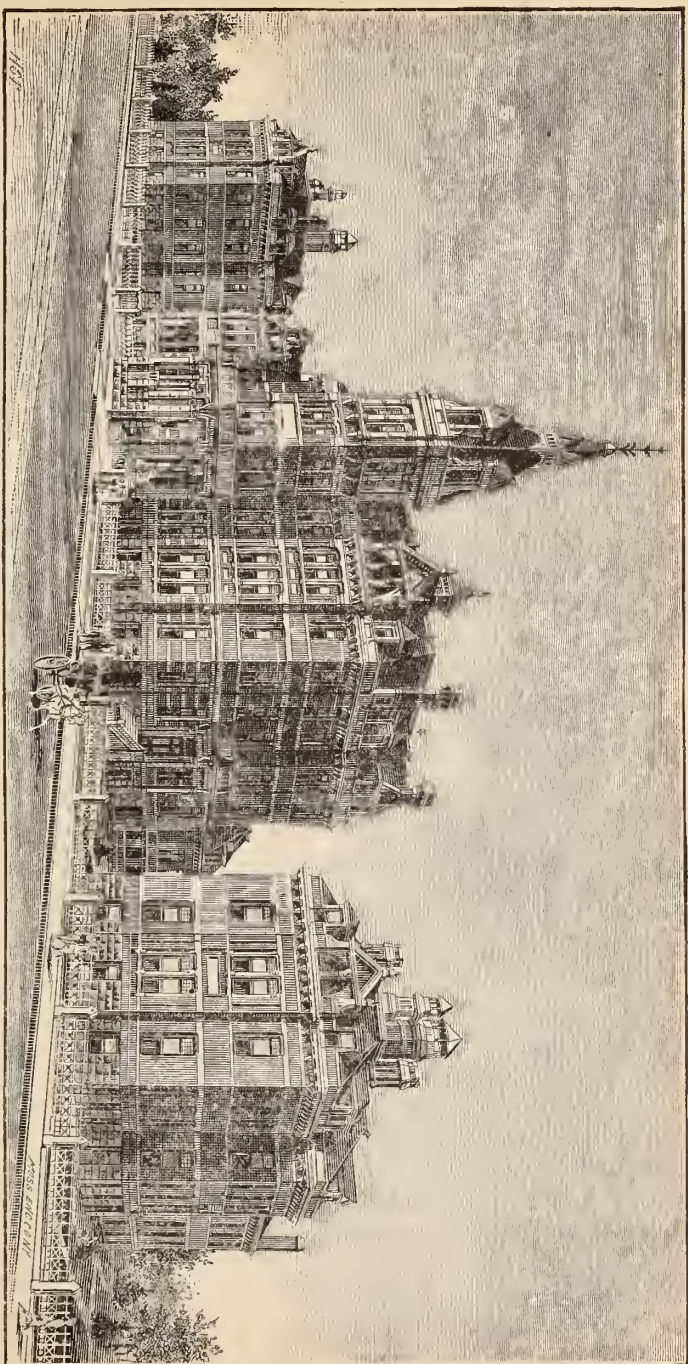
likely to be, beset with difficulties that tax our best skill and earnestness, yet that by a proper and intelligent use of the means at our command we may lighten our labors and increase our usefulness to those who come under our care.

THE NEW METHODIST EPISCOPAL HOSPITAL.

This magnificent institution was formally opened with appropriate ceremonies on December 15th, 1887. The medical address of the occasion was delivered by Dr. H. C. Wood, of Philadelphia. That it was polished and ornate goes without question. It was in substance a forcible and eloquent presentation of the arguments for the existence and support of hospitals.

Says the distinguished investigator and clinician :

“Not, however, as a philanthropic enterprise which is without alloy in the good that it accomplishes would I ask you to think of the hospital to-day, but rather as a business investment into which the wise community will not hesitate to put a portion of its capital. No art or science is to-day cultivated with an intensity of purpose equal to that which dominates the medical profession. Not long since I took the trouble to go over the record of the world's medical writing, and found that in the year 1885 no less than fifteen thousand doctors wrote articles or books upon medical subjects. The success is almost equaled by the activity, but unfortunately as power over disease grows, so do the processes of cure become more and more expensive. The simple herb of our forefathers is replaced by massage, electricity, and a host of appliances and processes whose use requires the expenditure of large sums of money. Even if the physician gives his services for nothing, but too often it is impossible for the person in limited circumstances to carry out his direction. The inability to command the best skill and the most expensive processes of medical treatment oftentimes means protracted illness and permanent disability which might have been avoided. The hospital which offers to the poor the best medical skill, gives back to the community that supports it a hundred-fold, in the return of the worker in good condition to his labor. Even the simplest machine with which the farmer cultivates the soil, must from time to time be taken to the shop for repair, and it is inevitable that the human unit, the machine with which the processes of civilization are carried on, must be repaired. An unskillful, badly organized shop entails waste of time and imperfect repair, and the mechanic knows full well the gain of sending his tools to that establishment which is best provided and best organized. Is it not



THE NEW METHODIST EPISCOPAL HOSPITAL, BROOKLYN, N. Y.

the more necessary that the most delicate human machine should have when disabled the best of care, that it may be returned to the work that is before it with the least delay and in the fittest condition. There is still another side of this question to which I would like to direct your especial attention. I have already spoken of the great advance of modern medicine, an advance which brings to all increase of health and length of life. All advances of medicine are made through the physiological laboratory and the hospital; neither of these workshops by itself suffices. In the one is perfected the materials which are rough hewn in the other. * * * After the subject has been worked out upon the animal and we have learned what we can do, then we can apply our new knowledge in the hospital and develop the exact nature and scope of the new power which has been acquired. I am anxious that I shall not here be misunderstood. The sick in the hospital almost universally are as carefully and as thoroughly treated as are the rich in their sick-chamber; but they are more massed together, so that time can be given by the physician to a number of cases of the same character; they are under more constant medical surveillance, so that the effect of remedies can be watched from hour to hour, and they are more completely under the command of the physician, conditions which are imperative when new methods of treatment are to be instituted. It is in the physiological laboratory that the underlying science of new methods is worked out, and safety for their employment in disease assured. * * * Then again the hospital pays the community, because it is the training school of the individual physician. The man who holds his highest place in the profession holds it by virtue of the weeks and months and years of conscientious labor performed without direct recompense in the wards of the hospital, and it is in these wards that he passes down to successive generation of pupils the grains of truth he has so laboriously gathered. If there were no human suffering to be relieved; if there were no heart to be comforted when crushed out by the processes of civilization; if there were no worker to be sent back to labor,—I insist that the hospital would be still a necessity in every community as the workshop in which the science and art of medicine is perfected and as the school where medicine is taught and the arena in which the individual physician is trained to the highest perfection."

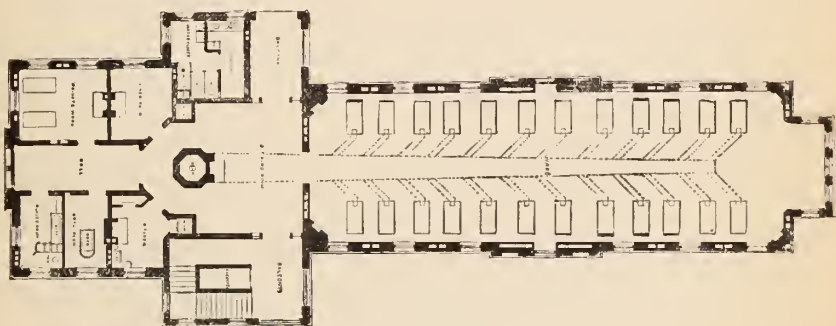
The hospital grounds consist of the entire city block bounded by Seventh and Eighth Avenues and Sixth and Seventh Streets, in the City of Brooklyn. The grounds are rectangular, being 695 feet 9 inches from east to west, and 200 feet from north to south, and embrace about three and one-fifth acres. For purposes of air space the area of these surrounding streets will always remain as available as that of the block itself. This more than doubles the superficial ground area upon which

to estimate the ultimate limit in the number of patients that ought ever to be aggregated on this site. At the rate of 540 square feet to each patient—the present accepted standard of requirement—this site could be made to safely accommodate 500 patients.

DRAINAGE.—The grounds slope rapidly, the Seventh Avenue line being 25 feet lower than the Eighth Avenue line. This secures perfect surface drainage, and equally good deep drainage, owing to the loose, gravelly nature of the soil, except at one point on the upper portion of the grounds, where a saucer-like stratum of clay forms a pocket, for the drainage of which special drains, that empty into the street sewer main, have been constructed.

The buildings front upon Sixth Street, and consist of a main central building and two pavilions, one on either side of the main building. The basements only of these buildings are connected by light corridors.

At present one pavilion is in working order, and a part of the lower floor of the central building containing the kitchen, laundry and dining rooms for officers and servants. A detailed description of the central building will be reserved until its completion.



PAVILION.

The pavilions, however, contain the main or common wards, and the rooms for private patients. There are two of them, alike in every respect, one on each side of the main central building, and distant from it 40 feet. The extreme width of the front or service portion of each pavilion is 60 feet, and the total depth of the pavilion is 150 feet. The portion containing the wards is of two stories, with a basement. The basement is 9 feet high, entirely above ground, fully lighted by windows uniform in number with those of the floors above, with concrete floors, plastered ceilings, and whitewashed walls. It will contain nothing except the apparatus for heating and ventilation.

The wards proper are rectangular, 96 feet long and 32 feet wide. Their height is 15 feet. The windows on the two sides are placed oppo-

site each other, and in the upper part of each window-frame is a transom sash. The long axis of the wards runs nearly north and south, and the wards have a full and uninterrupted exposure upon the east, south and west sides respectively. A constant and copious supply of fresh air is provided for by registers placed in the walls between each window, which communicate with flues that lead to external openings in the basement walls eight feet above the surface of the ground. These flues also communicate with heating chambers, enclosing steam coils, placed in the basement, and, by suitable valves, the air current may be made to pass through these heating chambers, or directly upwards into the ward above. The temperature may thus be regulated, but in no case can the volume of air be interfered with.

For the removal of vitiated air from the wards equally complete provision is made by means of two great aspirating chimneys in each pavilion. From apertures, suitably guarded, beneath the foot of each bed in the floor of the wards, and from a series of registers placed near the ceiling of the lower ward, and along the center of the ceiling of the upper ward, foul air ducts lead that converge to common ducts that finally empty into great aspirating chimneys, where, by means of steam coils, a constant force of aspiration is maintained.

In addition to these, four open fireplaces are provided in each ward, one in each of its corners. Each of these becomes, when in use, an accessory aspirating flue.

The wards open at their northern end into a wide corridor, which is enlarged so as to form a convenient sitting-room for convalescents. Around this, cluster the service and private rooms for each ward. On either side this corridor leads to a wide, open balcony upon which the staircases and the elevator shaft that connect the floors open. The isolation of each floor is thus accomplished, there being no communication between the floors of the pavilions without first passing into the open air of the balcony. Each ward is provided with water-closets, lavatory, bath-room, nurse's day-room, linen-closet, scullery and closet for patients' clothing, none of which communicate directly with the ward. In addition an isolating room capable of receiving two patients, is provided for each ward.

The basement corridor is continuous with the general corridor that connects all the buildings. A separate lift is provided, leading from the basement to the scullery of each ward. To this service portion of each pavilion is added a third story, in which is provided residence apartments for the hospital *internes*, also a small isolated ward for one patient, and a laboratory room.

The design for the hospital contemplates additional separate buildings for surgical operating purposes, for the reception and care of the dead,

and for stables to accommodate an ambulance equipage. The details of all these buildings remain for future determination.

The munificent founder committed his gift to the supervision of the Methodist Episcopal Church, but he especially stipulated that this should be a

GENERAL HOSPITAL,

open to Jew and Gentile, Protestant and Catholic, Heathen and Infidel on the same terms.

It is the desire of the Board of Managers faithfully to carry out this design in its largest and most generous meaning.

The founder of the hospital. Mr. Geo. I. Seney, contributed, at various times, sums of money aggregating \$410,000. An additional amount of \$70,000 was raised by the M. E. Church, which has been expended in fitting up the pavilion and part of the central building now open. There are at present accommodations for seventy patients.

The medical staff of the hospital is constituted as follows :

Consulting Physicians—Alfred E. M. Purdy, M.D.; Alexander Ross Matheson, M.D.

Consulting Surgeons—L. Bolton Bangs, M.D.; Nelson L. North, M.D.

Attending Physicians—William H. B. Pratt, M.D.; assistant, William C. Sneden, M.D.; Benjamin F. Westbrook, M.D.; assistant, Glentworth R. Butler, M.D.

Attending Surgeons—Lewis S. Pilcher, M.D.; assistant, John Bion Bogart, M.D.; George R. Fowler, M.D.; assistant, William M. Thallon, M.D.

Pathologist—Eugene Hodenpyl, M.D.

Officers of the Hospital—Superintendent, Rev. John S. Breckinridge; matron, Elizabeth M. Preston; sister supervisor of nurses, Mary E. Tuttle; apothecary, Arthur Rayner Pardington, Ph. G.

Neither trouble nor expense has been spared to make perfect ventilating, heating and sanitary arrangements. In these points the hospital is believed to be as near perfection as any building of similar character in this country or on the continent. For the purpose of inspecting these vital points, as well as the less practical but still important matters of cheerfulness, beauty and convenience, the profession are cordially invited to visit the institution at their leisure.

CERTAIN FOODS IN RELATION TO TREATMENT.

BY JOHN A. McCORKLE, M.D.,

Professor of Principles and Practice of Medicine and Clinical Medicine in the Long Island College Hospital.

Read before the Medical Society of the County of Kings, October 18, 1887.

Fashion has become a controlling element in the affairs of men, and we find it, all too frequently, extending its influence largely into the diet of the sick, as well as into the field of therapeutics, taking the place and oftentimes supplanting the well-marked indications of nature.

In sickness, pain admonishes to cease from toil; general weakness, to seek repose; and loss of appetite, to abstain from food; but the prevailing fashion tends to keep the muscles at work by massage, and force the digestive organs into work, while nature admonishes that rest is the essential factor in the treatment.

All the leading symptoms of acute disease point to the great therapeutic law of "Rest to the diseased organism." The stomach and bowels, in many diseases, are in no condition to digest food, and if by any means the entrance of nutrient material into the blood can be secured, it is still a question whether the ultimate cell will be able to appropriate the pabulum and utilize it in the process of nutrition; for after all, the *cell* is the essential factor in nutrition, and its function is often impaired by the presence of fever, abnormal circulation, and rapid metamorphosis.

In view of the importance of this subject much has been written, and much more will be contributed, ere we arrive at just conclusions. In a recent number of the *Journal of Reconstructives*, Dr. Roberts Bartholow contributes an excellent article on the misuse of milk in typhoid fever, rheumatism, and certain disorders of the digestive tract.

The subject of therapeutic food is one in which I am greatly interested, and I take this opportunity of presenting a few thoughts to the Society.

Milk has been called "the ideal food," and so it is to some extent; but there are many exceptions to its use. Does it not seem a little strange that among all the mammalia, man, in his sickness, is the only animal that returns to his infant diet or its congener, or continues it as an article of food in mature life!

There is grave doubt whether milk is not vastly over-rated as an article of diet. True, it represents all the elements in the proper proportions to support life indefinitely, but in certain diseases its various constituents cannot be well digested and assimilated.

In typhoid and other continued fevers, milk is considered the best food, and no doubt it is when properly administered. In all fevers of a continued type, as a rule, the tongue is coated, the secretions lessened and vitiated, the sensibility obtunded, and yet a quantity of food is often taken which would tax the digestive powers of the *healthy* organs.

Under such diseased conditions, the food is digested slowly and imperfectly, and the undigested portion is placed under the most favorable conditions for rapid chemical change, and as a result, gaseous distention, embarrassment of respiration and circulation, discomfort and danger ensue.

In typhoid fever we have the well-marked lesions of the intestinal tract, tenderness, tympanitis, diarrhœa, and general hyperæmia of the whole intestinal mucous membrane, with its attendant interference of function. The function of the stomach is less impaired than that of the intestinal tract, and when nausea and vomiting occur, they not infrequently are the results of improper and the too frequent administration of food.

It must ever be borne in mind that the amount of food appropriated and utilized by the organism measures the value of aliment, and not the quantity taken.

In typhoid fever, and as a rule in continued fevers, the use of milk is indicated, and needs but the guidance of common sense in its administration. The casein, sugar, salts, and the albuminoid elements of milk are digested in the stomach, the fat in the bowels. If the bowels are unable to digest the fat, it undergoes the butyric acid change, and becomes, instead of food, a violent irritant, adding materially to the irritation of the specific disease.

What is here the indication? The use of skimmed milk. In skimmed milk we find all the ingredients digested in the stomach, and by its use rest is given to the inflamed bowel.

But in fevers the gastric digestion is necessarily slow, and even the most appropriate food must not be given at too short intervals. If the food is not disposed of, and the partially digested becomes mingled with the fresh amounts, the problem of digestion and absorption becomes a difficult one. Three meals a day answering the requirements in health, the effect of six meals would simply lead to functional derangement and disease, and the stomach requiring physiological rest in health, should it be wholly denied this advantage when embarrassed by disease?

Thus in the feeding of fever patients there are two well-marked indications :

1st. The food should be given at regular, but not too frequent intervals.

2d. Digestion should be aided, as far as possible.

It has been well said "that every sick person is a dyspeptic, for the time being," and this fact should have due weight in the management of acute diseases. In all ordinary cases of fever, once in four hours is often enough for the administration of food, and if milk or meat juice be the diet, after one and one-half or two hours digestion should be aided by giving a little dilute hydrochloric acid, well diluted. The water will prove beneficial in two ways :

1st. By supplying the waste caused by the rapid elimination of fluids, by perceptible or imperceptible perspiration ; and 2d, by facilitating absorption by osmosis.

Again, HCl. is valuable, not only as an aid in completing digestion, but also as a disinfectant. It is well known that all chlorides are more or less disinfectants, whether as sodium chloride, calcium chloride, or hydrogen chloride as HCl. This action is very essential ; for under the influence of fever vitiated secretions are very liable to give rise to fermentative changes, which cause the distressing symptoms already referred to.

This is almost a routine management with me, and one to which I am very partial. In all fevers of a continued type, especially when the inflammatory element in the bowel is superadded to the specific disease, as in remittent, bilious remittent, and typhoid fevers, there is positive indication for the use of food which is fully digested in the stomach, and which leaves as little residue as possible.

It may be said that fever patients need a more liberal supply of the carbohydrates ; and nature has made an admirable provision for just such a demand by an abundant supply of available fat, in and around the muscles and elsewhere about the body. Thus the fever patient who emaciates, gives promise of a good prognosis, for he is able to use his stored-up force.

But the food suitable in one form of fever may be objectionable in another. For example, in rheumatism milk is almost wholly contraindicated, from the well known confirmatory fact, that the prolonged use of lactic acid, as in diabetes, is not infrequently followed by rheumatic attacks ; and in experiments upon animals, it has been found that when lactic acid has been injected into the tissues, the joints become swollen and show every symptom of acute rheumatism.

When milk is taken in acute rheumatism, it is very liable to undergo the lactic acid fermentation, and as a result we unwittingly add to the disease, while attempting to support our patient. Here the food problem becomes an important one. If it is desirable to give a liquid diet, cream may be given well diluted, and with a liberal supply of common salt. In cream, the fat exists in a state of high subdivision, and it is

very readily assimilated. The bowels not being especially disturbed in this disease, although their function shares in the general weakness of the organism, the carbo-hydrates are digested and assimilated.

But cream can form but part of the food. In rheumatism there is a marked tendency to the formation of acid. This tendency must be antagonized, and this principle of treatment was recognized by the older practitioner who employed the alkaline treatment with marked success.

The cause of rheumatism should be a guide to its dietetic treatment. The vegetable salts are especially serviceable when given in the form of food; not to supplant, but to aid in the general treatment. These salts have much to recommend them, being well borne by the stomach, and far easier of assimilation than those prepared in the chemist's laboratory. Nature in her own inimitable way unites the atoms, builds up molecules of these salts, in a manner best suited to the animal structure. In short, one of the functions of the vegetable kingdom is to prepare the mineral constituents for the use of the higher and animal life.

In rheumatism and all acid diseases akin to it, the well prepared vegetable soup becomes a valuable part of the dietetic treatment.

It is our duty not only to cure disease, as the term is generally accepted, but to prevent disease as far as possible; and by the careful preparation of vegetable food, we may be able to prevent many diseases, or at least hold them in abeyance.

The subject of cookery here claims attention. Much of the cookery of the present day is so conducted as to eliminate nearly all of the salts of the vegetable. The potage is thrown away; and when the food is ready for the table it is simply devoid of the vegetable salts, and in many cases almost indigestible. This result is familiarly seen in boiled cabbage. The uncooked leaf is easy of digestion, and an excellent and very palatable article of food, but the well-cooked cabbage is an abomination. And what is true of cabbage is equally true of carrots, turnips, cauliflower, peas, beans, and many other vegetables in common use.

Is it any wonder, with all the salts of the vegetable extracted through the ignorance of the first principles of cookery, that acid diseases, such as eczema, scurvy, urticaria, etc., should be so common. To prevent these diseases, our therapeutics should begin in the kitchen. The vegetable should be so prepared as to retain all the salts, and should become a part of the daily food. The salts were intended for use in the animal economy, and, when not supplied, the system is robbed of an essential ingredient of food, and will always respond by discomfort and disease.

It has been often observed that children affected with various forms of cutaneous disease do not improve on a liberal milk diet, and the

reason is plainly apparent—the milk increases the acidity and contributes an important share to the vicious circle. Withhold or diminish the amount of milk, give the child, as a part of its daily diet, properly prepared vegetable broths. To the broth or “stock” should be added the whole vegetable, rejecting only the woody and insoluble parts; rice, barley, or other farinaceous food may also be added, thus improving the nutrient quality. Children soon learn to relish these vegetable soups, and the change in the nutrition of the skin becomes speedily manifest.

The acid condition, or rather diminished alkalinity of the blood, may lead to other manifestations seemingly more remote, but none the less true as to their origin.

Cases like the following not infrequently occur: A child is taken sick with a fever, with all its attendant symptoms—there may be some nausea and vomiting; pain is a prominent symptom, which the child refers to the stomach. The doctor is called, and in the hurry of professional life, and the frequency of such symptoms in children, hastily concludes that the fever and pain are due to gastric irritation—the child has eaten something which has disagreed with it; and upon this diagnosis the treatment is based, and fortunate will it be for the patient if it be of the expectant plan.

The fever continues somewhat longer than the diagnosis would warrant; but after a time the child makes a fair recovery, and the illness is soon forgotten. But after a variable time—one, two, or three years—the doctor is called to examine the child on account of a cough. Obtaining the previous history of the patient, he finds no evidence of any serious illness in the past. On examining the chest, he is surprised to find a heart-murmur, and greatly wonders when the child had rheumatism. Such instances are not infrequent, as shown by the number of cases of cardiac disease found in children without any previous history of endocarditis.

There is reason to believe that the inordinate use of degenerate milk has contributed to these unfortunate events. Often the milk is not far from acid when drawn from the cow, especially if stall-fed; and it is actually acid in the case of the swill-fed cow, as shown by numerous observations. Add to this the churning of the milk in its delivery, and the means sometimes employed in its preservation, chemical and mechanical changes occur which render it more or less objectionable as the principal article of diet for children.

There is a widespread belief that if a child partakes largely of milk, its proper growth is assured, and health the inevitable result. This belief had its origin in the condition of things as found in the country, where children are fed on good, pure, fresh milk, have plenty of out-

door exercise, and withal a liberal supply of fresh fruits and vegetables ; but for city children, with their artificial modes of life and unwholesome milk supply, a somewhat different diet is desirable. Milk should not be interdicted, but other forms of food should be given greater prominence.

As is well known, there is more or less prejudice in the public mind, and also in that of the profession, against the use of fruits and vegetables of a sour taste, when there is a tendency in the organism to acidity and to the production of acid diseases ; but this is often without foundation. The various acids usually exist in the vegetable in combination with potash, and are, as a rule, easily oxidized, being converted into carbonic acid and water, thus contributing to the production of animal heat. At the same time the potash is liberated, and aids in maintaining and increasing the alkalinity of the blood, and finally the alkali unites with the nitrogenous elements in the retrograde metamorphosis and promotes their safe elimination from the body.

Occasionally in certain respiratory, circulatory, and depressing diseases, the oxidation of certain acids is imperfect—oxalic acid is formed, and oxalate of lime appears in the urine. This is frequently true of citric acid, which will account for the objection to the use of lemonade in urethral diseases, as maintained by Dr. Rand in his valuable paper read at our last meeting.

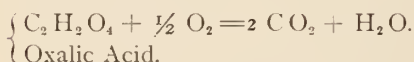
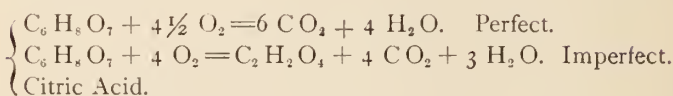
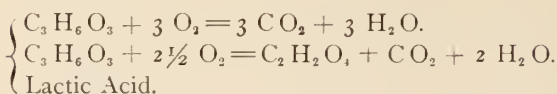
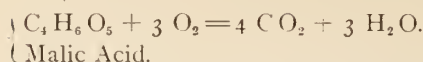
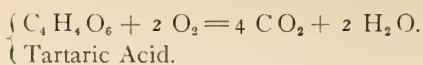
I am greatly indebted to our excellent chemist, Dr. E. H. Bartley, for much confirmatory knowledge, and for the preparation of the chemical formulæ, which it will be seen very generally coincide with clinical facts.

The chemical changes which occur within the body may be quite different from those without ; but taking the clinical facts and chemical results into consideration, we are enabled to arrive at fairly definite conclusions.

Herewith is presented a table of several well-known acids, with the number of oxygen molecules required to completely oxidize one molecule of acid :

Formic Acid oxidized by $\frac{1}{2}$ molecule of oxygen.					
Malic	"	"	1	"	"
Tartaric	"	"	2	molecules	"
Lactic	"	"	3	"	"
Citric	"	"	$4\frac{1}{2}$	"	"

Formic, malic, and tartaric acids are readily oxidized into carbonic acid and water, and show little tendency to form oxalic acid ; while citric and lactic acids resist the action of oxidizing agents to a considerable degree, and with a marked tendency to form oxalic acid.



The explanation of this action on the part of citric and lactic acids is not known, as far as I am able to learn; but the chemical and clinical facts concerning them are in full accord.

Lactic acid has been largely recommended, upon good authority, as a useful digestive agent, but it is objectionable in all cases when from any cause there is deficiency of oxidation.

Thus it is not a matter of indifference as to the kind of food used even in health. Persons suffering from the gouty, rheumatic, or lithic diathesis should have, as a part of their daily diet, a portion of food rich in vegetable salts, and should be taught the untoward action of milk in all acid diseases.

The subject of cookery has received far too little attention from the medical profession. In fact our prophylactics and therapeutics should begin in the kitchen, and, if need be, end in the drug store. The old doctor who was always on friendly terms with the denizens of the kitchen, and who gave as his reason that without them most of the doctors would be in the poorhouse, was not far from right, for even among the wealthy and well-to-do much of the food is spoiled in the cooking.

This subject has been admirably discussed in a popular way, in a recent work by Dr. Matthieu Williams.

In fact, as physicians, if we would give more attention to the preparation of food and less to the new pharmaceutical preparations which convert our office desks into miniature forests of bottles through the enterprise of the manufacturing chemists, it would be better for our patients.

DISCUSSION.

Dr. E. H. BARTLEY.—I am always interested in a paper on the subject of rational therapeutics. As a rule, there is entirely too much empiricism to be satisfactory to me. I once had a theory that everything

in medicine might be reduced to a scientific nicety. Practical experience has led me to give up that idea. The doctor has stated that malic and lactic acids do not oxidize with the same ease. This is due to the different structures of the molecules of these acids. In looking over the order of their arrangement as to ease of oxidation, I noticed that this was the exact arrangement independent of the oxygen required. It would seem that the clinical facts would accord with the results obtained by simply taking the quantity of oxygen absorbed. By studying the oxidation of these different acids outside of the body, we can form a pretty good idea of their oxidation inside of the body. In the case of defective hepatic action, we expect a defective oxidation of these salts, and also get the same in obstructions of the skin. We expect oxalate of lime in all diseases of the liver, skin, and lungs, and we all know that in phthisis the urine is thoroughly loaded with urates. It occasionally happens that the urine is almost like milk from the precipitation of uric acid even before it cools.

The acid salts of potassium play a very important part in the process of oxidation in the body. The administration of alkaline salts after a time interferes with gastric digestion by simple neutralization of the gastric juice, or by rendering the blood more strongly alkaline and affecting all the acid secretions. The alkaline secretions are increased by the alkalies. The administration of acids increases the gastric juice, the acidity of the urine, and the functional activity of the liver. This is why fruits are better than neutral salts, because we have here the acid which assists digestion, and after it has passed the stomach it renders the blood more strongly alkaline and increases the flow of bile and pancreatic fluid. It increases both the digestion in the stomach and the secretion of the alkaline fluids. The administration of these alkaline salts has an additional benefit. They neutralize the uric acid and assist in getting it out through the kidneys.

Uric acid is a product of deficient oxidation. This may accumulate in the blood by a deficient hepatic activity, and therefore we want a liver stimulant to get rid of it. It may come by the loss of oxidation due to a less alkaline condition of the blood. The administration of fruits and their salts increases the alkaline condition of the blood, and burns up these waste products more completely than it would without their administration. This is the probable explanation of the alkaline treatment of rheumatic affections. I have often been struck by the condition of the liver in typhoid states, and the importance of keeping that organ up to its functional activity. We know that peptonoids are poisonous when introduced directly into the circulation. I have tried to administer peptonized food in such cases, and always with unfavorable results. I attribute it to the fact that the liver would allow the peptonoid to pass directly into the circulation.

The liver has its chief functions in destroying peptones and poisonous substances which are found in the blood. In all rheumatic conditions there is very apt to be what is known as acid dyspepsia. This is probably due partially to the poisoning of the blood by debris. The administration of these salts affords a better result than the administration of the alkalis in the treatment of rheumatism, for the reasons I have stated.

Dr. J. M. VAN COTT, Jr.—We find, as we advance in our knowledge of the make-up of any living being, that to the cells which compose it are due the functional activities of that being.

A cell is automatic ; it responds to stimulus ; it ingests, digests, and egests. In these properties lie the functional activities of the cell. Over-stimulation of the cell destroys its function. The cell from which a living being originates multiplies into numberless cells, which differ in regard to their functional activities. After the cells have become differentiated, the various functions of the body are maintained by different sets of cells.

Cells subjected to the over-stimulation of disease manifest an increased action, which induces an alteration in their ultimate structure. This alteration is of a degenerative nature, *e. g.*, a fatty degeneration, and induces change in function, incapacitating the cell for its work in proportion to the degree of the degeneration.

One of the most obvious functions of the cell is the appropriation of materials for its sustenance and propagation. The cells require a certain amount of food at regular intervals for their nourishment. This food, under normal conditions, must be capable of easy absorption by the cells ; much more is this a necessity when the the cells have become crippled in functional capacity by the continued over-stimulation of high temperature and other processes of disease. As the food enters the body it must pass the great barriers of cells before it fulfills its purpose. First it must be acted upon and appropriated by the epithelium of the digestive tract, and then, by absorption by blood and lymph, it is utilized by all those vast areas of cells which go to form the tissues of the body.

It is important, therefore, in conditions of disease—especially fevers—that the food should be of such a nature as to be appropriated by the crippled cells at the least expense of their energy. By this means the food passing the first barrier of cells will be in greater amount, of better quality, and much more easy of absorption by the second series of cells.

Just here it seems to us the doctor has struck a key-note in the treatment of the fevers.

In regard to medicinal agents, those remedies whose properties are

to assist in the preparation of the food in the stomach for absorption, and the maintenance of the vitality of the cells, would seem best calculated to render service ; and here may be classed certain of the acids and nervines.

Dr. H. W. RAND said he had been especially interested in what Dr. McCorkle said of the results of imperfect oxidization. He had at present two cases under treatment, which might prove of some clinical interest in this connection. One is a boy, fifteen years of age, who has been troubled with nocturnal incontinence of urine for some years. This has been most marked during the spring and summer months. The patient is very fond of fruit, and has been accustomed to indulge in it to excess. The urine was found to be loaded with oxalate of lime crystals, which rapidly disappeared when he was deprived of fruit, and with the disappearance of the crystals his incontinence nearly ceased without treatment.

The second case is that of a lady, who has been troubled at times, for some years past, with an irritable bladder. She has found that lemons, sour oranges, tomatoes, strawberries, and even grapes, if she indulges freely in them, act as exciting causes. He had only examined the urine once in this case, and had found an abundance of oxalate of lime crystals, which he believed to be the cause of the patient's local trouble.

Dr. S. SHERWELL said he had had an inkling of what was to be the general drift of the paper, was prepared to comment favorably, and now had nothing further to do but emphasize his agreement with all of the writer's conclusions. He had long been of the opinion that milk in great quantity, poured into sick people and infants without any regard to their digestive capabilities, was a mistake—sometimes he even thought a fatal one. Especially does he so believe in diphtheritic states and the like. In judicious quantity, and always alkalized, it was a food, but excess became a burden. As to what the doctor had said in regard to its use, or over-use, in connection with skin diseases mentioned, he was sure Dr. McCorkle was right, and that many of the cases of infantile and other eczemas, etc., were simply forms of skin irritation, caused by an attempt of the skin vicariously to oxidize effete elements, that the intestinal tract had not been able to properly care for.

NOTE ON THE USE OF CHLORIDE OF METHYL.

BY WM. M. THALLON, M.D.

Read before the Medical Society of the County of Kings, October 18, 1887.

Chloride of methyl was introduced to the profession in 1884 by M. Debove, of Paris. He reported a number of cases before the Medical Society of the Hospitals of Paris, in which he had used this agent externally in the treatment of neuralgias, both primary and secondary. His results were so remarkable that several of the French observers at once had recourse to his methods, and a series of clinical reports have since appeared in the French medical journals. The uniformity of results obtained is quite striking, most of the cases, even inveterate sciaticas of years' standing, being cured, while all are reported as being more or less relieved. My own attention was directed to this remedy by the manufacturers, Messrs. Brigounet & Noville, of Paris, who sent me two syphons filled with chloride of methyl, with the request to try it and report on the results. I sent one of the syphons to Dr. E. C. Seguin, of New York, whose experience so far, I believe, has been favorable, but which he will doubtless himself report fully hereafter.

The first case I tried chloride of methyl in, was a patient who had been a martyr to neuralgia in various forms for years, and who, in consequence, had had recourse to morphine. I found her suffering from intense pain, located apparently in the musculo-spiral nerve of one arm. There were numerous painful points on pressure, especially where the nerve enters the musculo-spiral groove, and where it pierces the external inter-muscular septum. I tried various remedies—aconitia, arsenic, quinine, phosphorus, cannabis indica, atropine, all in efficient doses, without benefit. Then I used the constant current and sinapisms also, without affording relief. I was afraid I would be driven back to the use of morphine. At this juncture I received the syphon of chloride of methyl. I at once tried it, and the very first application gave great relief. The patient said she slept better that night than for weeks. I subsequently made slighter applications. The patient was so much better that she went to the country; this was in July. Last week I saw her again, and she stated that though she had had other pain in the shoulder, she had had no recurrence in the fore-arm.

The next case was one in which severe and persistent pain followed a mild attack of milk-leg. While the area of pain could not be nearly as accurately localized as in the preceding case, it was mainly referred to the cutaneous branches of the anterior crural nerve. The applications

made were very extensive in area, but not very intense in degree. Unfortunately, my supply of methyl gave out on the second day, and a complete cure was not effected, still the relief obtained was very marked. Other means, such as aconitia internally, the local use of the oleates of morphine and atropine, the constant current, lead and opium wash, sinapisms and extensive warmth, produced by wrapping the limb in heated cotton batting, had all been used previously, without affording any relief. The first change for the better immediately followed the use of the chloride of methyl. Dr. C. Jewett, who twice saw this case in consultation with me, will endorse the peculiarly inveterate nature of the attack.

The third case was one of facial neuralgia, the patient having had repeated attacks, sometimes accompanied by an herpetic eruption in the first division of the trigeminal nerve. Here a single application banished the pain, which has not since returned.

I should not have ventured to bring this matter before you with such meagre clinical data of my own, if it were not that the evidence of the French observers was more ample. Thus Debove, in his first paper, says: "My first patient treated was sent me by Dr. Dumonteil, and had a sciatica, which at different times had been fruitlessly treated by the actual cautery, and whom rest for one month during my hospital service had not in the least relieved. I applied the spray of chloride of methyl over the entire painful surface, from the hip to the external malleolus. One minute later, this patient, who had been unable to take a step, walked without limping, declaring himself cured. He was quite stupefied at his recovery, and I may confess my astonishment was not inferior to his. But I knew too much of marvellous therapeutic results due to coincidences and to the effects of imagination, and which the doctor does not again obtain on further trials, to be deceived. That is especially true of sciatica, which has actually been relieved by cauterizing the lobe of the ear. But, thanks to the frequency of this disease, I have been enabled to repeat my experiments with chloride of methyl, and I can affirm to-day that we are dealing here with a therapeutic agent, the effects of which are constant and instantaneous."

In his further remarks, Dr. Debove cites over a hundred cases in which he had successfully used this method. The experience of M. Tenneson, whom I know personally to be a careful and conscientious observer, though not so extended or striking, is noteworthy. He reports 37 cases in all. Of these, 10 were sciaticas, in 7 of which there was immediate and complete cure of the pain; in 3 marked relief, but only partial cure. In 11 cases of muscular rheumatism, 9 were relieved of pain by one application of the spray, and 2 by two applications. In five cases of articular rheumatism, either acute or

subacute, the relief of the pain was immediate, though the inflammatory swelling persisted and motion remained limited. Two cases of chronic articular rheumatism were markedly relieved of pain, and motion of the affected joints became more free. One case of periosteal pain of the sacrum in a tuberculous subject was relieved, and did not return during the few remaining weeks of his life.

Lastly, in 7 cases of localized painful points—3 in phthisis, 1 in purulent pleurisy, and 3 in acute lobar pneumonia—the spray brought complete relief.

I might quote still more extensively from the published reports, but these cases are sufficient to show that we have here a therapeutic agent that deserves investigation. I will now say a few words about the method of application.

The chloride of methyl at ordinary temperature is a gas which can be liquefied by extreme cold or pressure, or by combined cold and pressure. As used in medicine, it comes in the liquid state, in strong copper cylinders, under high pressure. If the pressure is removed, it expands and becomes a gas, the passage from the liquid to the gaseous state following the general physical law of absorption of sensible heat from the surrounding objects or air. This may be so intense as to produce a degree of cold in the object from which the heat is absorbed of 67° F. below zero. This property of chloride of methyl has been utilized by the French microscopists in freezing specimens for cutting.

In this apparatus, in the top, is a vertical pin, moved by a screw. On unscrewing it slightly, the chloride of methyl expands into the small chamber thus created; from this a lateral opening leads to the spray-tube, which is attached by a joint, allowing motion through a complete circle, by means of which the desired direction can be given to the spray. The calibre of the spray-tube is extremely fine, and by means of this screw, which opens or closes it, its coarseness and the degree of force with which it strikes the skin can be accurately regulated. There has been hitherto no source of supply in this country where chloride of methyl could be obtained, but Messrs. McKesson & Robbins inform me that they are negotiating with the proprietors of this article in Paris for its introduction into the United States.

The distance at which the end of the spray-tube should be held from the skin is from eight to twelve inches. The length of time the application to any one area of skin should last, varies with its thickness, but should never exceed one second. It is better to spray a part twice moderately, than too intensely once. The danger of too prolonged an application is that you may get a blister, an eschar, or even a slough, just as in frost-bite. This should never occur with anything like reasonable care. The color of the skin offers a perfect guide, and it

should be closely watched. The moment the skin becomes pale and hard, our object is attained, and the spray should cease. This palor of the skin is very rapidly followed by a more or less intense redness. This may persist from a few hours to several days, and some discoloration often lasts for weeks, but not permanently. Lastly, the most important practical point is, that as large a portion as possible of the cutaneous distribution of the affected nerve must be acted on.

These applications are to a certain degree painful; but owing to the rapidity and intensity of action of the cold, the initial pain is merely momentary. When the redness of the skin supervenes, there is more or less sensation of burning, but not as severe as that following the application of the actual cautery.

In conclusion, I would beg to draw your attention to the fact that this method of treatment is in no wise offered as a substitute for proper constitutional medication; it is merely a valuable adjunct. It seems to me especially valuable in that the methyl spray is a reliable substitute for that fearfully abused class of medicines—anodynes.

The principle involved in the use of intense cold as a counter-irritant in medicine is very old, but this method of applying it is new. I think, moreover, it possesses certain decided advantages over any other therapeutic agent of its kind that I am acquainted with. In the first place, with very little skill in manipulation its extent can be accurately regulated, so can its intensity. The rapidity of its action renders it far less painful as well as more efficient than the ether spray. I have tried both on myself, and can testify from painful personal experience. Its advantage over some other counter-irritants, such as cantharides, is that it can be so much more extensively applied and is not followed by a painful vesication or eschar, taking perhaps weeks to heal. I think my neurological friends will bear me out, that counter-irritation for the relief of pain should not transcend a certain degree of intensity, and should be applied, as far as practicable, to the *entire* cutaneous distribution of the affected nerve, in order to obtain the greatest good. I am quite sure it is not enough to counter-irritate over the painful points of Valleix. I have convinced myself clinically, in using the actual cautery, that you have the best success by starting at the most distant peripheral point and working toward the centre. The same holds good for the use of the galvanic current in the treatment of neuralgia. It is this extensive adaptability that gives so much value to the spray of chloride of methyl.

I have confined myself in this brief note to the use of methyl chloride for the relief of pain, but if its counter-irritant properties are as reliable as I think them, I believe that its applicability is much wider. It would be hard to mention any therapeutic agency which has more thoroughly

stood the test of long experience than counter-irritation. From time immemorial the testimony as to its reliability and efficiency has been overwhelming. Many pathological reflex actions, such, for instance, as coughs, are markedly relieved by properly applied counter-irritants. I do not doubt that some such method as this of the spray of chloride of methyl will offer the doctor a better means of applying counter-irritation than any other which we have at present at our command.

DISCUSSION.

Dr. A. JACOB, of New York.—I have been much interested in the hearing of this paper, and am sorry for having antedated Dr. Thallon in the publication of the paper. My experience with the chloride of methyl coincides with his. I hope attention will be repeatedly called to this matter until some means of supply shall be introduced into the United States. I can imagine nothing more easily manipulated and of more instantaneous action than the methyl spray. It has not the continuous pumping of the other sprays. In the treatment of neuralgia my record only embraces five cases, and those were three fresh cases of trigeminal neuralgia, and two old cases. I was not able to experiment as far as I would like, as I only had a small quantity of the methyl. In one case the relief and cure occurred after the first application. In the two old cases there was relief after two applications, but I am unable to say that there was a cure. One case was that of hyperæsthesia following the whole course of the trigeminal nerve. This was relieved after the first application, and the patient wrote me a short time ago that there was no return. One case of neuralgia of the sympathetic had suffered from pains going through from the nipple to the shoulder blade. In that case, after everything had been tried with no relief except by the use of morphine, I used chloride of methyl, and the pain was relieved instantaneously. But only a relief, not a permanent cure. Of the action of the chloride of methyl, I have expressed my view in the paper published. I did not attribute any inherent property to the chloride of methyl, but after reading a lecture by Marshall, I came to the conclusion that a number of neuralgias were not situated in the nerve-trunks, but in the *nervi-nervorum*, and that these are paralyzed, or completely destroyed, by the freezing process.

As to pigmentation as a result of the use of the chloride of methyl, I have only had one case of it—one severe case, which looks as if it were going to remain, but I do not think it is a serious objection.

THE STRUCTURE OF THE OS CALCIS, AND TWO CASES IN WHICH BOTH OSSA CALCIS WERE BROKEN AT THE SAME TIME.

BY J. S. WIGHT, M.D.,

Professor of Operative and Clinical Surgery at the Long Island College Hospital.

The size and structure of the os calcis are worthy of attention, as they relate to the subject of fractures of this bone. I have before me a normal specimen of the right os calcis. The bone is about three inches in length, it is about one inch and five-eighths in depth, and it is about one inch and two-eighths in width. The heel is nearly one inch and one-half in length. The other half of the bone in front is in articular relation with the astragalus, and slopes quite abruptly downward and forward to the interosseous groove, where the vertical diameter of the bone is somewhat less than an inch. From that point the greater process of the os calcis expands to some extent till it reaches the surface that articulates with the cuboid bone. At the place where we find the interosseous groove, which is nearly an inch from the anterior extremity of the os calcis, there is a constriction of the bony structure that may be called a *neck*. The under surface of the os calcis is slightly arched. The internal surface of this bone has a considerable arch that is augmented by the sustentaculum tali. The neck of the os calcis has a practical relation to the osseous structure.

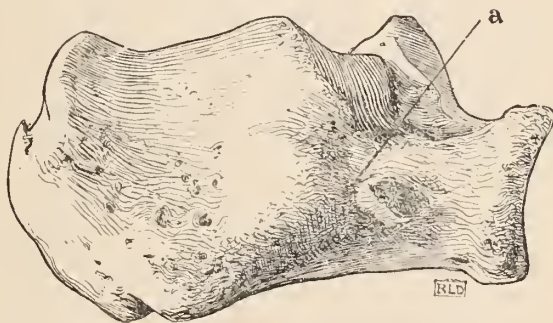


FIG. 1.—The os calcis. a. Neck of os calcis.

Now, as to the structure of the calcis: saw vertically and longitudinally in a curved direction through the center of the bone. The structure of the os calcis will at once appear. There is a firm layer of compact bone at the articular surface. From the compact bone of the interosseous groove, as a center, the bony plates radiate forward to the cuboid articulation, as well as downward and backward to the bottom

of the os calcis. And from the posterior part of the astragaloid articulation other bony plates radiate downward and backward. The upper plates run parallel with the upper surface of the heel, while plates next in order extend to the posterior extremity of the os calcis. And at the lower part of the neck of the os calcis, nearly under the interosseous groove, for a distance of about one-half inch, the layers of cancellous bone approach the conditions of compact tissue. From this territory, that is, from the under side of the neck, the bony plates radiate both ways—forward to the lower half of the cuboid articulation, and backward to a little more than the lower half of the posterior extremity of the os calcis.

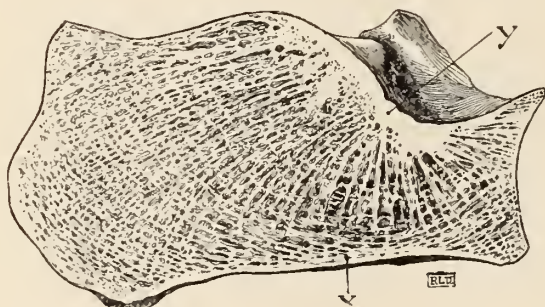


FIG. 2.—Structure of the os calcis. *X*. Compact bone at lower part of neck, showing radiations forwards and backwards. *Y*. Compact bone of articular surface.

When, therefore, we examine the size and structure of the os calcis in the manner above indicated, we shall see that the weakest part of the bone appears to be located in its neck. And there are two circumstances of a dynamic nature related to this conclusion: the astragalus rests directly and indirectly on the neck of the os calcis, which must therefore sustain more or less of the superincumbent weight of the body. And the calf-muscles make a lever of the os calcis, and the power and weight act on this lever of the second order in such a manner as to put the greatest strain on that part which we have denominated the neck. Hence, given the size, structure, as well as the conformation, of the os calcis, and also given the dynamic conditions we have pointed out, we may conclude that this bone may, in case of certain accidents, be broken in the vicinity of its neck. The following cases are related to illustrate the points above made, as well as the conclusions reached.

Case I.—Mr. A., a carpenter, about fifty years of age, fell, September 14th, 1886, some thirteen feet, and came down standing. He said he went into a heap when he struck. He could not get up, and it was necessary to carry him home on a stretcher. I saw him about two hours after the accident. Both feet were injured, but there was no

wound on either. On examination of the right foot, I found mobility in the continuity of the os calcis at the place where it is crossed by the peroneal tendon. The anterior part of the greater process of this bone was more prominent than normal, and could be pressed inward. When the pressure was removed, the fragment would be displaced outward; and as the fragment moved to-and-fro, crepitus was distinctly felt. Evidently there was a fracture of the neck of the right os calcis. The injury to the left foot was more serious. There was considerable swelling in the vicinity of the malleoli, which had been separated to some extent, indicating impaction of the cancellous bone of the lower end of the tibia. There was mobility in the continuity of the neck of the left os calcis. Crepitus could be felt by moving the bony fragments from side to side. The anterior fragment was displaced somewhat outward, and it could be pressed into place and held there by the fingers. The displacement would occur again when the fingers were removed from the fragment. In addition to this, the neck of the left astragalus was broken; for there was not only mobility in the continuity of the neck of this bone, but there was crepitus, that was distinctly felt when the head of the astragalus was pushed from side to side.

On the right side, the anterior fragment of the os calcis seemed to be displaced somewhat downward as well as outward. The arch of the foot was slightly obliterated, but the heel was kept mostly in place by means of the plantar fascia. I applied a roller bandage around the foot and ankle; it not only kept the fragments of the greater process well reduced, but it also tended to bring down the heel by pressing on the plantar fascia, which antagonized the muscles of the calf. On the left side the displacements were more marked. There was not much of the arch of the foot left, and the end of the heel turned up slightly. I applied a long inside splint with a foot-piece that would hold the foot and leg in normal relation. Both parts of this splint were well padded. The foot-piece was padded so as to press the plantar fascia well upward, in order that it might pull down the end of the heel. This splint was kept on by means of a roller bandage. The reduction of the fragments was such as to leave only slight deformity. At the end of seven weeks this foot was in the following condition: the end of the heel pointed nearly in a right line backward. The flexion and extension of the foot nearly normal, caused slight pain. The adduction and abduction of the foot, which occur at the subastragaloid joint, had an impairment of about one half. The space between the arch of the foot and the plantar fascia was considerably filled up with bony structure. While there was some enlargement left, the extravasated blood had not completely disappeared. In most respects the result was very satisfactory.

Case II.—A sailor, about twenty-nine years of age, fell a distance of

or the posterior half of the bone, without fracture. The fine pieces of bone could be felt by the finger introduced into the wound; and the head of the astragalus had been broken off and was partly projecting from the opening on the inside of the foot while the body of the astragalus was very much comminuted. I amputated the leg just above the junction of the lower and the middle thirds. On the right side there was a movable piece of bone, on the outside of the foot at the seat of the greater process of the os calcis. Crepitus could be felt when this fragment was moved. The arch of the foot appeared to be obliterated to some extent. The end of the heel turned up slightly, and the plantar fascia was somewhat tense. The neck of the os calcis had been broken. The treatment of this patient's right foot was similar to that of the first patient's right foot. The foot and leg were put in a normal relation, and some compression was made on the plantar fascia for the purpose of keeping down the heel. The amputation gave primary union; and after some six or seven weeks, the right foot had been repaired so as to leave but very little disability.

These two cases of simultaneous fracture of both ossa calcis appear to confirm the theoretical conclusion that the neck of this bone is the weakest part, and that it is favorably located for the occurrence of a fracture. One circumstance, however, that we have not noted, may contribute to this result; that is, the astragalus may to some extent act as a wedge, blunt to be sure, and yet of sufficient penetrating power, especially under the falling weight of the body, to co-operate to some extent in the production of a fracture of the neck of the os calcis. The larger articular surface of the under side of the astragalus is no doubt, from time to time, driven with great force into the concavity on the upper side of the os calcis, where the neck and the body of this bone are continuous. Combine this force with the resistance made on the abutments of the arch of the foot, and add to the resultant the contractile power of the sural muscles, and we have causes that are competent to produce the fractures under consideration.

The indications are that the os calcis is broken more frequently at the neck than in the heel, and that fractures of this bone are not uncommon. The diagnosis of the fractures in the cases above related was quite certain; yet it can be seen that the detection of this fracture at times must be very difficult. In some cases the diagnosis must be impossible, especially when there is impaction of the cancellous bone, and when the fracture is incomplete. When mobility in the continuity of the bone and crepitus cannot be found, and when the displacements of fragments are concealed by the swelling of the soft parts, the diagnosis can only be a matter of probability, depending on the severity of the accident and the extent of the disability.

The treatment of a case of fracture, or of suspected fracture of the os calcis, may be conducted on one of two plans: 1. The foot may be flexed on the leg, so as to raise the heel and relax the sural muscles. A splint of felt, plaster of Paris, or other suitable material, may be moulded to the anterior surface of the leg and the back of the foot, and securely kept on by means of a roller bandage. This apparatus will control the action of the sural muscles and inhibit their pull on the end of the heel; and the bandage will press on the plantar fascia, that will thus tend to hold the posterior end of the larger fragment downward and forward. In fine, it may be claimed that the flexion of the foot will to some extent diminish the upward displacement of the heel. 2. In most instances of fracture of the neck of the os calcis, I am inclined to recommend the plan of treatment employed in the cases above reported. A firm board-splint, having a foot-piece at an obtuse angle, after being well padded, may be applied to the inside of the leg and foot. It inhibits the sural muscles, and puts the foot in a normal relation to the leg. It maintains the relation of the fragments, and does not interfere with the comfort of the patient, and the foot-piece supports the arch of the foot in a desirable manner. So far as I can judge at present, it is better to have a foot-piece under than on the back of the foot.

There are two points of special interest connected with the kind of fracture we are considering. The fracture is near a joint, and is in cancellous bone. The process of repair will be slow, there may be considerable softening of the damaged bone, and an abundance of new substance may be formed. Also the fracture involves the subastragaloid joint, and inflammation of this joint will especially tend to produce disability. The ankylosis of the calcaneo-cuboid joint that may supervene will also to some extent complicate the result. In any case, disability of the joints of the tarsus will be less serious than impairment of the ankle-joint. When the patient begins to assume the upright position, the feet will swell for some time. Close-fitting socks and well-applied bandages will best counteract this tendency. The pressure due to walking will make the bottoms of the feet sensitive and painful; but these conditions will pass away as the parts recover their tone. The disorder of the neuromuscular apparatus of the ankle-joint will interfere with the patient's locomotion till the process of repair has been somewhat thoroughly completed. The case may need passive motion for some weeks, and this may be supplemented by the good effects of voluntary motion.

COMPOUND FRACTURE OF UPPER JAW.

BY V. J. PARKER, D.D.S.

The case which I now propose to describe is a boy nine years of age, and enjoying good physical health generally. He was kicked by a horse, receiving the blow on the left side of the face and a little above the angle of the mouth, inflicting a slight wound externally. On examination, it was found that the alveolar process from the superior central incisor tooth to the sixth year molar, or first permanent double tooth, was broken into many fragments, as was also the superior maxillary bone in the region described. The patient was examined by two able surgeons, and they decided to remove all that portion of the jaw which was mangled and broken, but before an operation was consented to by the parents, the boy was brought to the Long Island College Hospital Dispensary, and was there examined by Dr. H. C. Rogers, who was of the opinion that the jaw could be saved. The doctor asked me to see the case. I made an examination, and found the condition of things as above described, with this exception, that the temporary eye-tooth and also the temporary molars of the upper left side were missing, having been knocked out, and the permanent left central and lateral incisor teeth were lying transversely across the roof of the mouth. I was satisfied the jaw and teeth, which were displaced, could be saved; and the patient was placed in my hands for treatment. Without the aid of an anæsthetic, I carefully placed the teeth (central and lateral incisors) and fragments of bone in their normal position as nearly as possible, then with the aid of an assistant, who had the impression-wax ready (I used a soft wax, as it is impossible in such cases to use plaster) I succeeded in getting a very good impression of the mouth. I next prepared an interdental splint, made of black vulcanized rubber, and so arranged that the lower back teeth (or molars) were able to articulate with the splint while the front teeth just escaped striking each other, thereby avoiding any irritation which would arise if they were allowed to articulate perfectly. After the splint was properly adjusted, the parts were kept in a clean and healthy condition. As an antiseptic and deodorizer, I used a fifteen per cent. solution of Listerine. I instruct my patients (in cases of this nature) to use this agent as a mouth wash, about four or five times a day. I have used Listerine in several cases of this kind during the last two years, and have had good results in all of them. There are two great advantages in treating cases of fracture of either jaw by this method

over any other method known to me, viz.: in the first place, if a rubber splint is correctly made and properly adjusted, there is no possible chance for the slightest movement of the broken bone; secondly, all bandages and plaster splints on the outside are dispensed with, thus avoiding much embarrassment and disfigurement to the patient. The case spoken of in this paper has had no bandages nor splints applied on the outside. He visits me daily, and is doing as well as can be expected. The case is now of three weeks' standing; and the teeth, as well as the alveolar process and bone, are becoming quite firm and solid.

EDITORIAL.

THE BROOKLYN MEDICAL JOURNAL.

With more than one hundred and fifty medical journals already in existence in the United States, it will doubtless be asked, why is another started? Perhaps the best way of answering this question is by asking another. Where is there another city of 750,000 inhabitants, of whom more than 1,000 are physicians, which is without a medical journal? New York, with a population of a million and a half, has no less than twenty-one journals devoted entirely to medicine and surgery, not including six which are recognized as sanitary publications, and several others which are pharmaceutical. Chicago, with a less population than Brooklyn, publishes eight medical journals; Cincinnati publishes four; and St. Louis, whose population is not two-thirds our own, is credited with no less than nine; and, were it necessary, the comparison might be carried still further to the disparagement of Brooklyn. It is safe to say, without fear of contradiction, that nowhere in the civilized world is there to be found an equal number of medical men possessing no journal in which their observations may be recorded, and contributing so little to the medical literature of the world. It is true that from time to time the columns of the journals of New York and Philadelphia contain valuable contributions from Brooklyn physicians, and for the courtesy which has in this regard been shown us, we extend the thanks of the profession, but as compared with the material which is available for interesting and instructing the profession at large, the experience of our practitioners which is thus recorded, is but as a drop to the ocean. We venture to predict that if the medical profession of Brooklyn will take even a half-hearted interest in this new enterprise, and contribute but a tithe of their experience, no more readable and valuable medical journal will be published than the *BROOKLYN MEDICAL JOURNAL*. Nor is there any risk in making such a prediction. Here in a single municipality is a population greater than that of Vermont or New Hampshire; greater even than the combined population of Delaware, Rhode Island and Nevada; a city having no less than 5,000 manufacturing establishments, surpassed in this respect only by New York and Philadelphia, employed in which establishments are more than 47,000 persons, exposed to all the dangers to life and limb which such employment necessarily carries with it; a city within whose limits are twelve hospitals in which 20,000 patients are annually treated, and as many dispensaries with a yearly attendance of more than 60,000 persons. The condition of things is such that the

appropriate question to ask seems to be not why publish a medical journal in Brooklyn, but rather, why have so many years been permitted to pass without issuing such a publication?

What the medical profession of this city can do in this kind of work is not a new experiment. Its members have been twice tried, and in neither instance found wanting. The Transactions of the Medical Society of the County of Kings, containing papers presented to that society by its members during the years 1858 to 1865, and the Proceedings of the same society for the years 1876 to 1883, show what can be done by a single organization of medical men. Some of the contributions to these publications would do honor to the best journals of this country or Europe, and many of the methods of treatment which are from time to time announced as new can be found fully described in these older writings. With the broader basis upon which it is hoped to establish this new journal, bringing into hearty co-operation all the societies of the city which are medical in their nature, including in this term those that are pharmaceutical and dental, it would seem that there can be but one result, and that is success. It will be the earnest endeavor of the Editorial Committee, into whose hands this new project has been intrusted, to maintain it upon the same broad foundation upon which it has been placed, only, if possible, making that foundation broader if opportunity affords. With the active sympathy and co-operation of the physicians, pharmacists, and dentists of the county, the Committee has no doubt what the future of the Journal will be, and for the honor of the whole medical profession and for the reputation of Brooklyn, asks that its endeavor to establish and maintain a medical journal here may be sustained.

THE MEDICAL SOCIETIES OF BROOKLYN.

There are no less than six different societies in Brooklyn organized and maintained for the advancement of medical science. Some of these bear in their titles the name of the county rather than that of the city, but their membership is made up mainly of residents of Brooklyn, which city is in fact the greater part of the County of Kings in respect to population. These societies are, The Medical Society of the County of Kings; The Brooklyn Pathological Society; The Medical Microscopical Society of the City of Brooklyn; The Brooklyn Surgical Society; The Kings County Pharmaceutical Society, and The Brooklyn Dental Society. In this number of the JOURNAL we have given a concise statement of the objects of these societies, the dates of their organization, their present officers and the titles of the papers read during the year 1887. These

statements have been prepared under the direction of the officers of the respective societies. We have requested that each society would furnish the JOURNAL with a paper, which has been read before the society, and as that request has been complied with, we are able to place before our readers a series of papers on a great variety of topics. In subsequent numbers of the JOURNAL the proceedings and papers of these societies will be published. There are other medical organizations in Brooklyn, not represented in the list here given, whose transactions and contributions to medical literature are of a very high order, and it is the hope of the Editorial Committee that ere long the JOURNAL will contain the writings of Brooklyn physicians, both for the credit of the profession and for the reputation of the city.

PROGRESS IN MEDICINE.

Under the above caption will appear, from time to time, reports on the progress made in the different departments of medicine. The Editorial Committee congratulates the readers of the JOURNAL that these reports will be made by physicians and others who are especially qualified to select that which is valuable in the literature of the day, and to reject that which is but ephemeral. The value of these selections will be greatly enhanced by comments from these gentlemen whose services have been so kindly volunteered. We append a list of those under whose charge these reports will be made, with the departments which they will respectively represent.

SURGERY.

Geo. R. Fowler, M.D., Surgeon to St. Mary's Hospital, and to the Methodist Episcopal Hospital, Brooklyn.

OBSTETRICS.

Charles Jewett, A.M., M.D., Professor of Obstetrics and Diseases of Children, and Visiting Obstetrician, Long Island College Hospital; Physician-in-Chief of the Department of Diseases of Children, St. Mary's Hospital, Brooklyn.

PRACTICE OF MEDICINE.

Benjamin F. Westbrook, M.D., Physician-in-Chief of the Department of Throat and Chest Diseases, St. Mary's Hospital; Attending Physician to the Methodist Episcopal Hospital, Brooklyn.

PREVENTIVE MEDICINE.

Elias H. Bartley, M.D., Chief Chemist, Department of Health;

Professor of Chemistry and Toxicology, and Lecturer on Diseases of Children, Long Island College Hospital, Brooklyn.

DISEASES OF CHILDREN.

Jerome Walker, M.D., Lecturer on Physiology and Hygiene, Central School, Brooklyn; Late Senior Physician to the Brooklyn Sea Side Home for Children, Coney Island; Lecturer on Hygiene at the Long Island College Hospital; Physician to the Brooklyn Society for Prevention of Cruelty to Children; Visiting Physician to the Sheltering Arms Nursery; and to St. John's Hospital.

GYNÆCOLOGY.

A. H. Buckmaster, M.D., Gynæcologist to the Hospital for Mental and Nervous Diseases; Asst. Surgeon to St. Peter's Hospital, Brooklyn.

PATHOLOGY.

Joshua M. Van Cott, Jr., M.D., Lecturer on Histology and Pathological Anatomy, and Asst. Pathologist, Long Island College Hospital.

BACTERIOLOGY.

Arnold Stub, M.D., Brooklyn.

PHARMACY.

J. D. McElhenie, F. N. Bliss and W. M. Davis, Publication Committee of the Kings County Pharmaceutical Society.

DENTAL SCIENCE.

William H. Johnston, D.D.S., Secretary of the Brooklyn Dental Society.



AN INSTITUTION FOR THE TREATMENT OF NARCOTIC HABITUÉS.

At a meeting of the American Association for the Cure of Inebriates, held in this city, November 9, 1887, Dr. J. B. Mattison read a paper on "The Need of an Asylum for Narcotic Habitués"—reprints of which may be had of the writer—and, as a result of that paper, a movement is now under way to found such an institution in Brooklyn.

A Board of Directors has been formed—men of local and national repute in medical, clerical, legal and business circles, whose names we hope to be able to announce in our next number.

It is proposed that this institution shall have an initial capacity for twenty inmates, one-quarter of which shall be free to any worthy applicant whose character and poverty can be vouched for by a reputable

medical man. Of the other apartments, a decreasing number with an increasing compensation—five at \$10; four at \$20; three at \$30; two at \$40; and one at \$50.

With the income from a generous endowment and from paying patients, it is hoped to extend the benefits of the institution to many worthy applicants who, from stress of financial conditions, are now denied the aid which scientific treatment can surely afford.

We bespeak for this project the sympathy and support of the profession, at home and abroad. It should enlist a more than general interest; for it is a fact that narcotic habitués are recruited more largely from our own fraternity than from any other professional class.

MEDICAL LEGISLATION.

The laws of the State of New York regulating the practice of medicine were in a very unsatisfactory condition prior to the year 1887. We doubt if there was one physician in the State who was familiar with his legal rights and responsibilities, and we have reason to believe that there were but few lawyers who could, without much study and research, have given advice to their medical clients touching these matters. Nor is it a matter of surprise that this should have been the case when we remember that at the beginning of the year there were upon the statute book, still unrepealed, no less than thirteen laws covering a period from 1806 to 1884, each of which imposed some obligation upon him who desired to practice physic and surgery in the State of New York. Even one of the most recent laws, that of 1880, was differently interpreted in different counties of the State. In New York County, for instance, physicians were required to register with the county-clerk if they desired to practice in that county, even though they were already registered in another county of the State. In one instance, a physician who had registered in Richmond County removed to New York City, and not registering, was arrested and prosecuted. In Kings County, on the other hand, the county-clerk refused to register physicians who were already registered in another county of the State. Other difficulties and annoyances connected with this Act of 1880 might be referred to, but one additional one will suffice to show the necessity of improved legislation. By the provisions of that act, if a physician, practicing in Brooklyn and being registered there, was called to attend a patient, even if it was a member of his own family, in the village of Huntington, Suffolk County, he would have been guilty of a misdemeanor had he prescribed for that patient without first having gone to Riverhead to register his name with the county-clerk.

The complexity of the law regulating the practice of medicine in this State, and the petty annoyances connected with this registration act of 1880, were happily simplified and overcome by the passage of an act by the legislature of 1887, known as Chapter 647, and entitled, "An act to regulate the licensing and registration of physicians and surgeons, and to codify the medical laws of the State of New York." This act we have given in full, page 80, and we would direct the attention of physicians to its provisions. Section 9 of the act repeals all the laws previously enacted which regulate the admission of individuals to the practice of physic and surgery, and provide for the punishment of those practicing without authority; and the purpose of the act is to codify the statutory provisions of the State referring to these subjects. It is, therefore, to this act that physicians must look for guidance in the future in the matters with which it deals.

The Medical, Pharmaceutical and Dental Societies of Kings County and Brooklyn.

THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

This society was organized in the year 1822, as is shown by the following extract from the manual.

"On Monday, February 25th, 1822, Drs. Charles Ball, Matthew Wendell, John Carpenter, W. D. Creed, Francis H. DuBois, and Adrian Vanderveer, practicing physicians in the County of Kings, met in the village of Flatbush, to discuss the propriety of forming a County Medical Society.

"March 2d, 1822.—An adjourned meeting was held in the village of Brooklyn, when it was decided to organize a society, and the following officers were elected: Cornelius Low, President; Matthew Wendell, Vice-President; Adrian Vanderveer, Secretary; John Carpenter, Treasurer.

"At the same meeting, by-laws for the government of the Medical Society of the County of Kings were adopted, and it was resolved that the anniversary meeting be held on the second Monday in April."

From that time to the present its meetings have been held monthly, except during the summer, in halls rented for that purpose.

In January, 1887, the question of the purchase of a building for a permanent home for the society was brought before the society, and a committee, consisting of Drs. Thallon, Matheson, and Hunt, was appointed to solicit subscriptions for this object. This committee, at the

February meeting, reported that, including the amount in the permanent fund of the society and that subscribed by the members, amounting to \$5,300, the total available fund for the new building would amount to \$7,600.

The President, on motion, appointed Drs. Jewett, Hutchins, Hunt, Matheson, and Thallon trustees to act with the president and treasurer in regard to the proposed purchase.

On motion, these trustees were authorized to purchase the property No. 356 Bridge Street.

This property was purchased by the trustees, alterations were made, and on Tuesday evening, May 17th, the first regular meeting of the society was held in the new building.

The regular monthly meetings of the society are held on the third Tuesday of each month, at 8 o'clock, P. M.

The library is open at all times for the use of the profession.

The following papers have been read at the meetings of the society during the past year :

February.—"Cocaine Dosage and Cocaine Addiction," by Dr. J. B. Mattison.

March.—"Intubation of the Larynx after O'Dwyer's Method, with demonstration on the Cadaver," by Dr. Geo. McNaughton. "The Present State of our Knowledge regarding Localization in the Cortex Cerebri," by Dr. Landon C. Gray.

April.—"Eczema and its Treatment," by Dr. J. McF. Winfield.

May.—"Gymnastics in Mature Life," by Dr. Alex. Hutchins. "The Treatment of Puerperal Convulsions," by Dr. Walter B. Chase.

June.—"Some Hindrances to Lactation," by Dr. E. H. Bartley. "Malaria in Children," by Dr. Emmet D. Page.

September.—"Brooklyn as a Field for Surgical Work and Progress," by Dr. L. S. Pilcher. "Urethral Inflammation in the Male," by Dr. H. W. Rand.

October.—"The Therapeutics of Rhamnus," by Dr. Alex. Hutchins. "Certain Foods in Relation to Treatment," by Dr. J. A. McCorkle. "A Note on the Chloride of Methyl," by Dr. Wm. M. Thallon.

November.—"Ergot: its Uses and Dangers in Obstetrics," by Dr. Joel W. Hyde. "Two Cases of Recto-Vaginal Fistula occurring at the Time of Labor, with Immediate Operation," by Dr. Walter B. Chase.

December.—"Some Points in the Treatment of Fractures of the Patella," by Dr. Jarvis S. Wright. "The Treatment of Fever," by Dr. B. F. Westbrook.

The officers for 1887 are :

President, Dr. William Wallace; Vice-President, Dr. A. Ross Matheson; Secretary, Dr. Chas. E. De La Vergne; Asst. Sec'y, Dr. C. N.

Dixon Jones ; Treasurer, Dr. Walter B. Chase ; Librarian, Dr. Jos. H. Hunt.

Censors.—Dr. Chas. Jewett, Dr. Alex. Hutchins, Dr. Jno. A. McCorkle, Dr. Frank E. West, Dr. Glentworth R. Butler.

THE BROOKLYN PATHOLOGICAL SOCIETY.

The Brooklyn Pathological Society was organized in 1870, and has at the present time one hundred active members. Although for some time a section of the Kings County Medical Society, it maintains at present a distinct organization. Its meetings are held at the rooms of the Kings County Medical Society on the second and fourth Thursdays of the month. While the study of morbid specimens forms a large share of its work, the practical application of pathological knowledge to general medicine is not ignored, as will be seen by the following list of the more important papers that appeared during the year :

“Relationship between Cerebro-vascular and Renal Disease,” by Glentworth R. Butler, M.D.

“McEwen’s Operation for Genu Valgum,” by John Harrigan, M.D.

“Pathology of the Vaccine Vesicle,” by Wm. E. Griffiths, M.D.

“Etiology of Pneumonia,” by H. B. Baker, M.D., of Lansing, Mich.

“Perineal Surgery in the Syphilitic Subject,” by Lucy M. Hall.

“Importance of Early Recognition of Progressive Myopia,” by Jonathan S. Prout, M.D.

“The Corset : Question of Pressure and Displacement,” by Robt. L. Dickinson, M.D.

“Multiple Neuritis as a Sequel of Erysipelas,” by Wm. Browning, M.D.

“The Pathology of Deflections of the Septum Nasi,” by D. Bryson Delavan, M.D.

“Acute Intestinal Obstructions,” by Frank W. Rockwell, M.D.

The present officers of the Society are : B. F. Westbrook, M.D., President ; F. W. Wunderlich, M.D., Vice-President ; R. G. Eccles, M.D., Treasurer ; Arnold Stub, M.D., Curator ; and A. H. Buckmaster, M.D., Secretary.

THE MEDICAL MICROSCOPICAL SOCIETY OF THE CITY OF BROOKLYN.

The organization meeting of the “Medical Microscopical Society of the City of Brooklyn” was held in the latter part of February, 1887, at the residence of Dr. Herbert Fearn, and was called by Doctors Arnold Stub, Herbert Fearn, and F. M. Hoyt.

The purpose of the meeting was the foundation of a microscopical society composed of medical practitioners, for the advancement of medical microscopy; and the 2d of March was chosen for the first regular meeting.

At the first meeting the following gentlemen were elected to hold office for the year: President, Dr. W. H. Bates; Vice-President, Dr. Arnold Stub; Rec. Secretary, Dr. F. M. Hoyt; Cor. Secretary, Dr. H. D. Bliss; Treasurer, Dr. Albert Binkman.

The death in the summer of Dr. Hoyt, left the society without a recording secretary, and Dr. J. M. Van Cott, Jr., was elected to fill the vacancy.

The society holds its meetings on the first Wednesday of each month in the year, excepting July and August. Its membership is limited to twenty-five, twenty of the members being active working microscopists, and five being associate members and not necessarily active workers with the microscope.

Papers are read monthly on medical microscopical topics, and are illustrated with microscopical preparations. The following is a list of papers read before the society up to date:

March 2d, '87.—Dr. W. H. Bates, "Remarks on Bacterium Lactis from Human Milk," illustrated with slides and cultures.

April 6th, '87.—Dr. Arnold Stub, "Bacillus Tuberculosis," illustrated with slides, cultures, and methods of sputa staining.

May 4th, '87.—Dr. J. C. Shaw, "Illustrations of the Histologic Changes of the Nervous System in Leprosy," specimens of bacillus, etc., exhibited.

June 1st, '87.—Dr. Albert Brinkman, "The Retina," with histological specimens.

September 7th, '87.—Dr. J. M. Van Cott, Jr., "Two Important Glands of the Female Urethra," illustrated with histological preparations.

October 5th, '87.—Dr. R. G. Eccles, "Some Thallophites that Infect Medical Supplies," with microscopical preparations and infected drugs.

November 2d, '87.—Dr. Arnold Stub, "Remarks on Gonorrhœa in the Female Urethra," with fresh microscopic preparations showing Neisser's Gonococcus.

December 7th, '87.—Dr. H. D. Bliss, "The Epithelium of the Genito-Urinary Tract," illustrated with histological preparations.

January 4th, '88.—Dr. Chas. Heitzman, "Microscopical Diagnosis of Diseases of the Genito-Urinary Tract."

THE BROOKLYN SURGICAL SOCIETY.

The Brooklyn Surgical Society was organized November 2d, 1887. Its object is the advancement of surgery in all its branches. Its membership is limited to those who are known to be actively engaged in surgical work, either as practitioners, authors, or teachers. Meetings are held at 356 Bridge Street, on the first and third Thursday of each month, excepting July and August. The programme for each evening embraces (1) an essay followed by discussion, (2) presentation of clinical cases, specimens, etc., (3) executive business.

Each member of the society in turn is obliged to present a paper.

The government of the society resides in the Council, consisting for the current year (Nov., '87, to Sept., '88) of Dr. F. W. Rockwell, President; Dr. W. M. Thallon, Secretary; Dr. Geo. R. Fowler,

The following list contains the names of members and the dates of their papers :

Dr. F. W. Rockwell, Pres., Feb. 16th, '88; Dr. J. B. Bogart, April 19th, '88; Dr. Joseph Creamer, May 3d, '88; Dr. Jas. F. Feeely—subject, "Loose Cartilages in Joints"—Dec. 15th, '87; Dr. George R. Fowler—subject, "Observations on Congenital Talipes Varus—Dec. 1st, '87; Dr. E. A. Lewis, Jan. 5th, '88; Dr. L. S. Pilcher, Jan. 19th, '88; Dr. H. W. Rand, Feb. 2d, '88; Dr. G. Wackerhagen, March 1st, '88; Dr. J. S. Wight—subject, "Amputation of the Penis"—Nov. 17th, '87; Dr. F. W. Wunderlich, April 5th, '87.

THE KINGS COUNTY PHARMACEUTICAL SOCIETY.

ORGANIZED FEBRUARY, 1887.

Its aims are set forth in the Constitution, Art. II., Sec. I., as follows : "To unite the registered pharmacists of the county and vicinity in efforts for the promotion of professional and business interests; for the advancement of pharmaceutical knowledge; for the dissemination of correct ideas of professional obligation and business honesty; for the enactment and maintenance of just and practical laws for the regulation of the practice of pharmacy, and for the impartial and equitable enforcement of the same; to the end that competence and skill may be fostered and protected, that ignorance and knavery may be exposed and punished, and thus the requisite conditions assured for the development of a higher and better exemplification of the science and art of pharmacy."

The first president was our venerable and esteemed member, Mr. George C. Close. Several well-known pharmacists of the city have since

held the office. The organization of the society was the outgrowth of a movement during the summer of 1876 to make the Board of Pharmacy of New York City metropolitan in scope, and require the pharmacists of Brooklyn to attend there for examination and registration. The legislation sought was defeated, and in its stead this society secured the passage of an act creating the Board of Pharmacy of Kings County which was organized in 1879.

As a result of a report from the Board of Pharmacy to the society some years ago, by Mr. Wm. P. DeForest, President of the Board, in which he dwelt upon the evident need of elementary instruction in pharmacy and the allied branches, on the part of the drug clerks who came before the Board, the society was led to undertake the organization of a course of lectures to be adapted to junior clerks, and conducted by the members of the society and a few medical gentlemen who kindly consented to aid. The first course was free, and the results exceeded the anticipations of its promoters. For the second course a nominal fee was charged, as also for the third season now going on. The lectures occur weekly, on Thursday afternoon, and are well worthy the attention of the junior clerks. As a result of the first and second courses, a number of the young men have been stimulated to study, and several have matriculated at the College of Pharmacy of the City of New York to complete a more systematic education.

About two years ago, this society received from the legislature a charter for a college of pharmacy, which it is hoped to establish when "the man for the hour" is revealed with the necessary funds.

About the same time was begun the work of collecting a library, of which quite a nucleus has been formed, chiefly periodicals. Authors and publishers of books and journals in our line are respectfully invited to contribute and exchange. Secretaries of pharmaceutical associations also will please note this item. All contributions will be acknowledged in these columns. The library is on the shelves of the Library of the Medical Society of the County of Kings, and at the service of members and physicians.

The society meets on the second Tuesday of each month, except July and August, at the rooms of the Medical Society. The membership is about 160. A great deal of good practical work for pharmacy has been done. Papers are read and discussed from time to time. When no special paper is presented, rambling but profitable discussions occupy the time.

The reputable pharmacists of the city who are not yet members are invited to become so.

A very important work for pharmacy, in which this society has taken part from the beginning, early in 1883, has been the preparation and

publication of the New York and Brooklyn Formulary, which is now advanced to the stage of proof-reading. Its appearance will doubtless be hailed with pleasure by both professions. A review and selections will appear in these columns.

The officers and committees of the society are as follows :

President, C. R. Paddock ; Vice-Presidents, T. D. McElhenie and L. F. Stevens ; Secretary and Treasurer, F. N. Bliss ; Assistant Secretary, T. Chagnon.

Censors—W. M. Davis, chairman ; G. C. Close, F. W. Fleischauer.

Elective Trustees—T. M. Lahey, Chairman ; L. E. Nicot, C. W. Brunner, D. L. Cameron, L. T. Perkins.

Legislation—W. P. DeForest, C. R. Paddock, L. F. Stevens, R. Black, L. E. Nicot.

Committee on Affairs Pertaining to Pharmacy—L. F. Stevens, L. D. Sheets, M.D., L. D. Perkins.

Committee on Trade Matters—D. L. Cameron, A. Paradis, F. H. Ploger.

Committee on "Unofficial Formulæ"—C. R. Paddock, L. E. Nicot, T. D. McElhenie, D. L. Cameron, J. P. Heyen, M.D.

Library Committee—T. D. McElhenie, L. T. Perkins, L. F. Stevens, W. M. Davis.

Lecture Committee—L. F. Stevens, T. D. McElhenie, W. P. DeForest, L. E. Nicot, J. P. Heyen, M.D.

THE BROOKLYN DENTAL SOCIETY.

This Society was organized December 14, 1867. Its active membership now numbers fifty-four, while of corresponding members there are nine. The object of the Society is the advancement of its members in Dental Science and Art, and the encouragement and maintenance of a high order of professional excellence. Its meetings are held on the fourth Monday evening of every month, July and August usually excepted, at the rooms of the Medical Society of the County of Kings. The officers of the Society are :

J. P. Gevan, President ; L. G. Wilder, Vice-President ; Will. H. Johnston, Recording Secretary ; S. F. Cook, Corresponding Secretary ; F. C. Walker, Treasurer ; J. E. Hill, Librarian.

The following is the order of meetings, essayists and subjects :

Monday evening, September 26th, 1887—R. C. Brewster, M.D.S., "Oral Surgery."

Monday evening, October 24th—Sir John Tomes, M.R.C.S., "The Study of Dental Surgery," (Selected).

Monday evening, November 28th—A. H. Brockway, M.D.S., "Management of Difficult Cavities,"

Monday evening, December 26th—C. B. Parker, D.D.S., "Treatment of Pulpless Teeth."

Monday evening, January 23d, 1888—J. Allen Osmund, D.D.S., "Side Lights in Dental Practice."

Monday evening, February 27th—J. N. Farrar, M.D., D.D.S., "Regulating Teeth,"—Blackboard illustration.

Monday evening, March 26th—Robert Ormiston, M.D., "A new view of Infection and Contagion from the standpoint of the Bacteriologists."

William Jarvie, M.D.S. [Subject to be announced.]

Monday evening, April 23d—F. T. Van Woert, D.D.S., "Crown and Bridge Work."

Monday evening, May 28th—William Thallon, M.D., "Facial Neuralgia."

Monday evening, June 25th—Annual Meeting, Election of Officers.



Acts of the Legislature of the State of New York, 1887.

CHAPTER 647, LAWS OF 1887.

AN ACT TO REGULATE THE LICENSING AND REGISTRATION OF PHYSICIANS
AND SURGEONS, AND TO CODIFY THE MEDICAL LAWS OF
THE STATE OF NEW YORK.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. No person shall practice physic or surgery in this State who shall not have attained the age of twenty-one years; and no person shall practice as aforesaid unless he or she shall be, at the time this act shall take effect, a person lawfully engaged in such practice in this State under license or authority conferred by its laws then in force, and lawfully registered pursuant to chapter five hundred and thirteen of the laws of eighteen hundred and eighty, and the acts amendatory thereof, or unless he or she shall be licensed or authorized so to practice by the provisions of this act, and registered as herein prescribed.

§ 2. From and after the date of the taking effect of this act, no person not theretofore licensed or authorized to practice physic or surgery in this State shall be deemed so licensed or authorized except one of the three following classes:

First.—All who shall have been graduated from an incorporated medical school or college in this State with the degree of doctor of medicine, after substantial compliance with all the requirements of the general laws and of the charter of said corporation regulating the term and amount of study, attendance and attainment requisite to obtain said degree; provided that no person shall receive the degree of doctor of medicine, or be licensed to practice physic or surgery in this State unless after the age of eighteen he shall have pursued the study of medical science for at least three years, in a chartered medical school or with some physician or surgeon duly authorized by law to practice physic or surgery; and shall have attended two complete courses of lectures in some legally incorporated medical school or college, in good standing at the time of such attendance, prior to the granting to him or her of a diploma or license; provided, further, that two courses of lectures, both of which shall be either begun or completed within the same calendar year, shall not satisfy the above requirement.

Second.—All who have received said degree from the regents of the university of the State of New York, after substantial compliance with the legal requisites preliminary to its attainment, and after examination by a legally constituted board of medical examiners of this State.

Third.—All who, having been graduated from incorporated medical schools or colleges without the State as doctors of medicine, or licensed to practice physic or surgery under the laws of those European countries in which said degree does not confer the right so to practice, shall procure their diplomas from said corporations or their licenses from such countries, to be indorsed by the faculty of an incorporated medical school or college within this State, or by the regents of the university on the recommendation of a legally constituted board of medical examiners of this State. Every such indorsement shall be in form of schedule A or of schedule B provided by the tenth section of this act. Every corporation or board so indorsing shall keep a record of their indorsements, and may require applicants to verify their statements under oath; any indorsement made with fraudulent intent, or gross carelessness or ignorance, shall be deemed a misdemeanor, and shall subject the indorser or indorsers, upon conviction thereof, to a fine of two hundred and fifty dollars.

§ 3. Every person who, at the time this act shall take effect, shall be practicing lawfully physic or surgery in this State, under the authority and license conferred by the laws then in force, but who shall not be then duly registered in the county where he or she practices; and every person who shall thereafter become lawfully authorized or licensed to practice physic or surgery in this State, shall register in a book to be kept in the clerk's office of the county in which such practice is carried on, his or

her name, residence, place and date of birth, and authority for practicing as aforesaid. Every person who shall apply to register as a physician or surgeon shall be required, before registration, to subscribe and verify by oath or affirmation, before a person qualified to administer oaths in this State, an affidavit which shall be filed and preserved in a bound volume. This affidavit shall be in the form prescribed in schedule C, provided by the tenth section of this act. Every person registering as aforesaid shall exhibit to the county clerk his or her diploma or license, or in case of loss, a copy of either, legally certified as are copies of documents admitted in evidence, or a duly attested transcript of the record of its conferment from the body conferring it, upon which the said clerk shall indorse, or stamp, his name and the words "Presented and registered as authority to practice physic and surgery by on the day of in the clerk's office of county." The said clerk shall also give to every registered physician or surgeon a certificate in the form of schedule D, provided by the tenth section of this act, for all of his said services the county clerk shall receive, as a total fee for registration, affidavit and certificate the sum of one dollar. It is provided, however, that nothing in this act shall require any physician or surgeon who shall have duly registered lawful authority to practice as such, conformably to the provisions of chapter five hundred and thirteen of the laws of eighteen hundred and eighty, and the acts amendatory thereof, to register again under the provisions of this act, in any county where he or she shall have registered already.

§ 4. A practicing physician or surgeon, having registered lawful authority to practice physic or surgery in one county, who shall remove his practice or part thereof to or regularly engaged in practice or open an office in another county, shall exhibit in person to the clerk of such other county, or shall send to him through the mail by registered letter, his certificate of registration, and if such certificate shows lawful authority to have been registered, said clerk thereupon shall register said applicant in said latter county, on receipt of a fee of twenty-five cents. The clerk shall stamp or indorse upon such certificate the words "Registered also in county," and return the same; and every certificate and indorsement made pursuant to the provisions of this act shall be *prima facie* evidence in any legal proceeding that the person named has registered in the office issuing the same the authority stated in the transcript.

§ 5. Every person now licensed to practice physic or surgery in this State under the laws thereof in force at the time of the conferment of such license, unless he or she already shall have registered his or her name, residence, place of birth and authority so to practice pursuant to the provisions of section two of chapter five hundred and thirteen of the laws of eighteen hundred and eighty and the acts amendatory thereof,

shall comply with the requirements of said chapter on or before the first day of October, eighteen hundred and eighty-seven, and thereafter no person shall be entitled to register any authority to practice physic or surgery, except the license conferred under this act, and the laws enacted hereafter, and no registration shall be considered valid as such unless the authority registered constituted at the time of registration a license under the laws of this State then in force; provided that nothing in this section shall be construed to prohibit or suspend any prosecution for non-registration under said section instituted prior to said first day of October, eighteen hundred and eighty-seven; and further provided, that no diploma or license conferred upon a person not actually in attendance at the lectures, instruction and examination of the corporation conferring the same, or not possessed at the time of its conferment of the requirements then demanded of medical students in this State as a condition of their becoming licensed so to practice, shall be deemed lawful authority to practice physic or surgery in this State.

§ 6. No person shall be licensed or permitted to practice physic or surgery in this State who has been convicted of a felony by any court of competent jurisdiction; and if any person who is or hereafter shall be duly licensed to practice physic or surgery in this State, shall be convicted of a felony, as aforesaid, his or her license to so practice, if any, shall be revoked by the fact of such conviction having been had. Any person who shall willfully swear falsely to any statement contained in any affidavit made pursuant to the provisions of this act shall be deemed guilty of a felony, and subject to conviction and punishment for perjury; any person who falsely and without authority shall counterfeit, make or alter any diploma, certificate or instrument constituting a license to practice physic or surgery within this State, or any certificate or indorsement given in pursuance of this act, shall be deemed guilty of a felony, and be subject to conviction and punishment for forgery in the second degree; any person who shall practice physic or surgery under a false or assumed name, or who shall falsely personate another practitioner of a like or different name, shall be deemed guilty of a felony, and shall be subject to conviction and punishment for false personation; and any person guilty of violating any of the other provisions of this act, not otherwise specifically punished herein, or who shall buy, sell, or fraudulently obtain any medical diploma, license, record or registration, or who shall aid or abet such buying, selling or fraudulently obtaining thereof, or who shall practice physic or surgery in this State under cover of a diploma or license that shall have been illegally obtained, or that shall have been signed or issued unlawfully or under fraudulent representations, or mistake of fact in material regard, or who, after conviction of a felony, as aforesaid, shall attempt to practice physic or surgery in this State, and

any person who shall assume the title of doctor of medicine, or append the letters "M. D." to his or her name, without having received the degree of doctor of medicine from some school, college, or board empowered by law to confer said degree or title, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not less than two hundred and fifty dollars, or imprisonment for six months for the first offense, and upon conviction of a subsequent offense, by a fine of not less than five hundred dollars or imprisonment for not less than one year, or by both fine and imprisonment. Any person who, not being then lawfully authorized to practice physic or surgery in this State and so registered according to law, shall practice on or after the first day of October, eighteen hundred and eighty-seven, physic or surgery within this State without the license and registration provided for in this act, shall be deemed guilty of a misdemeanor, and on conviction thereof shall be punished by a fine of not less than fifty dollars for the first offense, and for each subsequent offense by a fine of not less than one hundred dollars, or by imprisonment for not less than one hundred days, or by both fine and imprisonment. When any prosecution under this act is made on the complaint of a lawfully incorporated medical society of this State, or a county society entitled to representation in a State society or association, the fines when collected shall be paid to the society making the complaint, and any excess of the amount of fines so paid over the expense incurred by the said society in enforcing the medical law of this State, shall be paid at the end of the year to the county treasurer, for the use of the poor of said county.

§ 7. The duly incorporated medical societies of any county in which any person shall practice physic or surgery without lawful authority or registration may, upon proof of such practice, recover from such practitioner, in an action before any justice of the peace, a penalty of twenty-five dollars and the costs of the action for the first judgment, and upon every subsequent judgment for the same offense a penalty of fifty dollars and the costs of the action; provided that said societies shall pay to the county treasurer for the use of the poor of said county any surplus that may accrue in their hands from the excess of fines and penalties collected over the disbursements of said society for counsel fees and the expenses incident to the enforcement of this act by them.

§ 8. Nothing in this act shall be construed to punish commissioned medical officers serving in the army or navy of the United States, or in the United States marine hospital service, while so commissioned, or any one while actually serving as a member of the resident medical staff of any legally incorporated hospital, or any legally qualified and registered dentist exclusively engaged in practicing the art of dentistry, or interfere with manufacturers of artificial eyes, limbs, or orthopedical instruments

or trusses of any kind from fitting such instruments or persons in need thereof; or any lawfully qualified physicians and surgeons residing in other States or countries meeting registered physicians and surgeons of this State in consultation, or any physician or surgeon residing on the border of a neighboring State, and duly authorized under the laws thereof to practice physic or surgery therein, whose practice extends into the limits of this State; providing that such practitioner shall not open an office or appoint a place to meet patients or receive calls within the limits of the State of New York; or physicians duly registered in one county of this State called to attend isolated cases in another county, but not residing or habitually practicing therein.

§ 9. The following acts and part of acts are hereby expressly repealed, to wit: Sections eight to twenty-two, inclusive, of title seven of chapter fourteen of part one of the Revised Statutes; also all of chapter one hundred and thirty-eight of the laws of eighteen hundred and six, that provided for the examination and admission of medical students to practice, and for penalties for practicing physic and surgery without a diploma or other lawful authority; also section or paragraph fifth of chapter one hundred and four of the laws of eighteen hundred and seven; also sections nine, ten, eighteen and all of section eleven following and including the words "whose duty" of chapter ninety-four of the laws of eighteen hundred and thirteen; also sections one, two, four and all of section three following and including the words "any three" of chapter two hundred and six of the laws of eighteen hundred and eighteen; also section two of chapter two hundred and thirty-seven of the laws of eighteen hundred and nineteen; also chapter one hundred and twenty-six of the laws of eighteen hundred and thirty; also sections one, two and four of chapter five hundred and thirty-two of the laws of eighteen hundred and thirty-six; also chapter sixty-four of the laws of eighteen hundred and forty-one; also chapter two hundred and seventy-five of the laws of eighteen hundred and forty-four; also chapter four hundred and thirty-six of the laws of eighteen hundred and seventy-four; also chapter five hundred and thirteen of the laws of eighteen hundred and eighty; also chapter one hundred and eighty-six of the laws of eighteen hundred and eighty-one; also chapters four hundred and eleven and four hundred and forty-five of the laws of eighteen hundred and eighty-four; also section three hundred and fifty-six of the Penal Code. And also all acts or parts of acts authorizing any incorporated school or college to confer the degree of doctor of medicine *causa honoris or ad eundem*, or otherwise, than upon duly graduated students in course; and all other acts or parts of acts inconsistent with this act are hereby repealed. And it is provided that the degree of doctor of medicine conferred *causa honoris or ad eundem gradum*, shall not be a qualification for the practice of physic and

surgery in this State. And whereas, it is the purpose of this act to codify the statutory provisions of this State regulating the admission of individuals to the practice of physic and surgery, and the punishment of those practicing either physic or surgery without authority. It is further provided that the specific repeal herein of any portion of an act that may have been heretofore repealed, expressly or by implication, shall not be construed to revive the remaining part thereof.

§ 10. Section ten shall embrace the following schedules, namely, A, B, C and D :

SCHEDULE A.

To all whom it may concern, greeting :

A. B., having on the day of eighteen hundred and , presented to the faculty of , a diploma, purporting to have been issued on day of , to said A. B., conferring on the degree of doctor of medicine, and it being made certain to us by inquiry and examination that the said , at the date of said diploma, was a medical college or school, duly incorporated, in good standing and authorized to confer the degree of doctor of medicine, and also that the said A. B., is the identical person upon whom the said diploma was conferred, and is also a person of good moral character, who has pursued a course of study equivalent to that required of a doctor of medicine by said faculty, and is sufficiently well versed in the knowledge of physic and surgery to qualify to practice the same.

Now, therefore, the said faculty have caused this indorsement and the seal of the said to be placed upon said diploma.

(Signed) by the dean or proper officer.

[SEAL.]

SCHEDULE B.

To all whom it may concern, greeting :

A. B., having on the day of presented to the faculty of a license purporting to have been issued to said , as authority to practice physic and surgery in all branches; and it being made certain to us by inquiry and examination that A. B. is the identical person on whom the license was conferred; that it is not necessary in the country in which it was conferred that a licensed practitioner of physic and surgery should have the degree of doctor of medicine, and that a license in form and substance such as the one hereby indorsed is the usual and sufficient authority to practice physic or surgery therein; and, further, that said A. B. is a person of good moral character, who has pursued a course of study equivalent to that required of a doctor of medicine by our faculty, and is sufficiently versed in the knowledge of physic and surgery to practice the same.

Now, therefore, the said faculty have caused this indorsement and the seal of the said to be placed upon said license.

(Signed) by the dean or proper officer.

[SEAL.]

SCHEDULE C.

STATE OF NEW YORK, }
COUNTY OF } ss.:

being duly sworn, says that h name is ; that was born in on the day of ; in the year ; that now resides at number street, in the city of and intends to practice physic and surgery in the county of ; that h authority so to practice is a license (or diploma), conferred upon h , on the day of , in the year , by , a duly incorporated medical school (or college), or a legally constituted board of medical examiners of the State of New York, authorized at the date of conferring said to confer the same and being then in good standing (or in case of a European license, describe the source thereof, and the authority under which it was conferred). Affiant further says that is the person named in the said , and had before receiving the same, fully and substantially complied with the requisites as to attendance, terms and amount of study and examinations required by the laws of the State and the charter and regulations of said as preliminary and necessary to the conferment thereof. Affiant further says that no money was paid by for said except the regular fees paid by all applicants therefor; that no fraud, misrepresentation or mistake in any material regard was employed by any one, or occurred, in order that said should be conferred on affiant. (Where indorsement has been made of a license or diploma granted without the State, this additional clause shall be verified.)

And affiant further says that the said diploma or license was indorsed on the day of , eighteen hundred and , by the faculty of upon satisfactory proof by affiant of all the facts hereinabove recited, and that had followed a course of study equivalent to the curriculum of said , and was competent to practice physic and surgery.

Sworn to before me, this }
day of }

SCHEDULE D.

To whom it may concern: Know ye, that on the day of A. B. , having first subscribed and verified an affidavit in the form of schedule C of chapter of the laws of eighteen hundred and eighty-seven, made an entry in the register of physicians and surgeons, kept in the office of the clerk of county, of which entry I certify to be a transcript:

NAME.	Birthplace.	Residence.	Date, source and character of license or diploma.	Indorsed by what faculty.	Remarks.
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In witness whereof I have set my hand and official seal this
day of

Clerk of county.

[SEAL.]

§ 11. This act shall take effect immediately.

AN ACT REGULATING THE SALE OF MORPHINE.

The abuse of physicians' prescriptions, by which opium or some of its preparations is obtained by patients or their friends for months and years without the knowledge of the physicians themselves, has been the means of inducing the legislature of New York to pass an act to restrict the practice of refilling prescriptions containing this drug except upon the order of the physician. This act, Chapter 636, laws of 1887, we give in full below. While the object for which this law was passed is a praiseworthy one, we doubt whether it will accomplish what is desired. It will be seen that the act permits the refilling of a prescription of this nature once. What there is to prevent a customer, after having the prescription twice filled and then obtaining a copy, from having it again twice filled by another pharmacist, and so continue the round of the drug stores of the city, we are unable to see. Then, too, there is liable to be an abuse of the "verbal" order of the physician. Must that be communicated directly to the pharmacist, or may it be transmitted through a third party? These defects can doubtless be easily remedied by additional legislation, if it is desirable. We should be very glad to have the matter discussed in the JOURNAL by physicians, pharmacists, and others who may be interested.

CHAP. 636, LAWS OF 1887.

AN ACT TO REGULATE THE SALE OF MORPHINE BY DRUGGISTS AND APOTHECARIES IN THIS STATE.

The People of the State of New York, represented in Senate and Assembly, do enact as follows :

SECTION 1. From and after the passage of this act, no pharmacist, druggist, apothecary or other person, shall re-fill, more than once, prescriptions containing opium or morphine, or preparations of either, in which the dose of opium shall exceed one-fourth grain, or morphine one-twentieth grain, except with the verbal or written order of a physician.

§ 2. Any person violating the provisions of section one of this act shall be deemed guilty of a misdemeanor, and shall, upon conviction thereof, be fined not less than ten dollars nor more than twenty-five dollars, in the discretion of the court, for each and every such offense.

§ 3. This act shall take effect immediately.

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ORIGINAL ARTICLES.

ERGOT: A RESUME OF ITS USES AND DANGERS IN
OBSTETRICS.

BY JOEL W. HYDE, M.D.,

Consulting Obstetrician to the Long Island College Hospital; Chief to the Department of Obstetrics
in St. Mary's Hospital; Member of the Kings County Medical Society and
of the Brooklyn Pathological Society.

[Read before the Medical Society of the County of Kings, November 15th, 1887.]

In the first decade of the present century, ergot was introduced to the profession in this country by Dr. Stearns of this State, as an agent for specifically exciting uterine contractions. It seems, moreover, to have jumped at once to its high pinnacle of fame; to have scarcely met with any considerable objection, even the more scholarly and cautious of the profession confining their criticisms to the method of prescribing it and the proper period for its exhibition. The great majority of remedies pass through a period of probation, so to speak, with the profession, before being generally adopted and placed in the list of standard medicines. This remedy was at once, and by common consent, placed side by side in the front rank with standard remedies; neither anæsthetics nor any of the great remedies brought to light later in the century were so readily received by the profession.

The keen remembrance of abortional and post-mortem floodings, which had made the strongest-nerved of the profession shrink in dismay many times, caused them to accept with a unanimous and wonderful satisfaction a remedy so long prayed for and found at last. It is true that here and there instances appear where honest experimenters had raised a finger of warning, but the great mass had been disinclined to listen.

Sudden death is always more appalling than death after a lingering illness or after an acute and protracted state of suffering. And thus it happens that the cause of a sudden death, when recognized, is always looked upon with special horror; while, on the other hand, the plain causes of those diseases which are perennially fatal in the community are regarded with equanimity and toleration. So one death from the use of chloroform by any physician would probably deter many other physicians from the use of it with their patients; but the improper use of ergot in a case of parturition, causing laceration of the cervix, or a ruptured uterus, or a vesical or perineal laceration, would be far less likely to influence the future use of that drug. That ergot has held sway so long is because its dreadful damages have been under cover. Death has resulted in a few cases from ruptured uteri caused by its use; but, where the injuries have produced a more or less invalided condition only, it has been possible for the practitioner to ascribe the wretched condition of his patient to natural causes.

To modern gynæcology the world owes ceaseless blessings and thanks; first, that it has uncovered the ragged results, oftentimes, of ergot work; second, that it knows how to treat them and restore otherwise hopeless cases to comparative health.

I do not wish to have it understood that ergot has produced all the mischief which the gynæcologist has to treat—far from it; but I believe the number of cases of uterine injury and pelvic trouble of earlier days, in which ergot was a prominent factor, if not all the cause, was greater or as great as all others combined; and even to-day, with the very modified use of the drug, as taught in our medical schools, ergot leaves many unhappy traces behind.

In consideration of the fact that ergot has the endorsement of continued use for the last three-quarters of a century by almost the entire profession, including the ablest obstetricians of America and Europe, he must be bold indeed who dares to attempt to stem the tide of professional opinion, much more to subvert it and prevent the use of ergot in the lying-in-room. I am not seeking such distinction for myself, nor do I know that I am about to add anything to what has already appeared from the pens of those of great repute, and who are far more worthy to enter their protests against the use of ergot; but the object of this paper is to present the opinions of some prominent men of the profession,

uttered during the past few years on this subject, and subjoin some statistics of my own.

Prof. J. W. Compton says : " If we consult the older masters in midwifery, we shall find that this medicine was then recommended at improper times, and resulted in deaths of multitudes of children, the larger proportion being still born ; but a considerable proportion were lost by convulsions a few hours after delivery, and their deaths traceable to their having imbibed the poison of the ergot while in utero, and its baneful influence continuing upon their organization even after they had ceased to be subject to its immediate operation." Dr. Ramsbotham, on premature labor says : " Of fifty-five children born after the administration of ergot, though thirty-three were born alive, five died in convulsions speedily after birth "

Dr. Chapman, in an article published in the *Medical and Surgical Reporter* of Philadelphia, vol. v., p. 15, says, in speaking of Dr. Stearns, who introduced this remedy into notice and who used it more continuously than many do at this time, " that he lost his practice from a strange mortality amongst the children, and from child-bed fever that followed him like an evil genius from door to door." And he adds, " there can scarcely be a doubt that one hour's ergot pain would be fatal to one-half the children born, for they are literally smothered, since they are effectually cut off from the only source whence their blood can be supplied with oxygen."

Schroeder says, in his *Manual of Midwifery* : Schatz has shown, by means of the tokodynamometer, that after the use of ergot the internal uterine pressure is continually and greatly increased during the intervals, and that the pains become more frequent but less efficient, until at last they cease."

" It is shown that it is just this persistent pressure which brings the child into danger ; for, during each contraction of the uterus, as during a normal pain, the diffusion of gases between the maternal and foetal blood is not entirely stopped, but greatly limited, so that during a normal pain the sounds of the foetal heart are less frequent. In very powerful and rapidly succeeding pains, the child cannot recover in the short relaxation, but becomes asphyxiated and dies. This process is what takes place in the energetic action of ergot."

" The uniform tension of the uterus does not materially favor either the dilatation of the maternal soft parts, or the progress of the ovum, and therefore ergot is useless for the expulsion of the child."

He adds still further on the subject :

" It has already been stated that ergot is hardly able to contribute to the expulsion of the child, and besides, towards the end of labor we have a far more efficient means of acceleration."

Prof. Penrose, in an able lecture on this subject, reports two cases of ruptured uteri, which he attributed solely to the use of ergot.

Hardy, of Dublin, reported forty-eight cases in which he had given ergot to hasten lingering labors, and out of this number thirty-four infants were still-born.

McClintock reports thirty cases—twenty still-born.

Busche reports one hundred and seventy-five cases, in each of which the child was known to be alive, and of this number, twenty-five were still-born.

West reports sixty-four cases—nine still-born.

Meigs said in his work: "Multitudes of children were dead-born from this cause, by the imprudent exhibition of a medicine, which as constantly excites spasm of the womb as *nux vomica* does the muscles of the body."

The Academy of Medicine of Paris, in 1850, directed a committee to investigate the "influence of ergot on the life of the child," which reported "its life endangered both by compression and narcotism."

In 1853, the Academy formally adopted the conclusions of M. Depau, "that except in miscarriage, in certain labors attended with hæmorrhage, and, occasionally, at the conclusion of natural labor, parturient women would be the gainers by the complete disuse of ergot."

This is quoted to show that more than thirty years ago thinking men regarded with great suspicion a remedy so potent for mischief in the lying-in-room.

In the Bethesda Hospital of Dublin, the use of ergot, as an oxytocic before delivery, has been prohibited by the present trustees. This fact I learned from a prominent medical journal five years ago.

Prof. Joseph Taber Johnson says: "So far as my own opinion is concerned, I am free to say, in the remembrance of the still-births caused by ergot, in the remembrance of the ruptured uteri and consequent *maternal* deaths caused by ergot, in the remembrance of the many cases of lacerated cervix, torn vagina, and ruptured perineæ, attributed to the use of ergot, I think the human race would be better off if this drug could be utterly abolished from the lying-in-room. I believe as at present used throughout the world that it does vastly more harm than good to parturient women and to their unborn children."

The foregoing statistics and criticisms on the use of ergot are expressions of representative men in both this and foreign countries; and, while these facts refer only to its use in the earlier stages of labor (a custom then in vogue), they stamp it with the emphatic condemnation which must always attach to it hereafter, and which has been potent enough to compel a modification and complete revision regarding its use in the last quarter of a century.

In late years, teachers and writers on this subject have taught the necessity of administering ergot at the conclusion of the second stage of labor, or, as some direct, immediately the head escapes the perinæum. This is a vast step in advance of the teachings of the earlier part of this century. It saves multitudes of mothers from the ruptures and lacerations produced by the tetanic spasms of unwisely administered ergot. It saves multitudes of infants who would have been asphyxiated by its use. But it still leaves a too large margin for this dangerous drug in the lying-in-room.

No one denies the possibility of post-partum hæmorrhage; but I think its frequency and dangers are overrated. I think personal fear and timidity on the part of many practitioners tend to make them more easily alarmed as to this one feature attending labor than almost all other features, probably because its rapidity leaves them so little time for consideration or action. I believe that the number of deaths or serious disabilities resulting from other conditions of the lying-in-room vastly outnumber those from post-partum hæmorrhage; yet I venture that this latter danger is the one always uppermost in the minds of physicians when called to cases of labor. This is why it has been so impossible to eliminate ergot from obstetric use.

I believe there is no other remedy in the pharmacopœia which has had an imperative law laid down for its use, necessary or not necessary; yet these teachings obtain at the present day, and in relation to conditions which were intended by Nature to be simply physiological.

The theory of an indiscriminate use of ergot in every case of parturition, based on the *fear* that possibly there may be a post-partum hæmorrhage, seems to me to be so contrary to the spirit of Nature, so distrustful that the womb does not know its business, that for one I am compelled to take exceptions to it. To prescribe ergot immediately after all deliveries for fear of hæmorrhage, presupposes that it is a law of Nature for all uteri to be afflicted with atony or inertia immediately they are relieved of their contents. But how fallacious is such reasoning! And to this theory I cannot consent.

Now, what happens on the administration of ergot at the termination of the second stage?

Lusk says: "As a result of the abuse of ergot, * * * * * such an extreme degree of retraction may be reached before the completion of the third stage, as to lead to the imprisonment of the placenta within the uterine cavity."

After many years of careful observation in my own practice, and a somewhat extended gathering of facts from medical periodicals bearing upon this subject, I judge that more than one-half the cases of placental difficulty were the direct results of use of ergot. It is a drug which is as

likely to affect the circular as the longitudinal fibres ; it may expend its force on the cervix, the internal os, or either cornu. The placenta may be grasped by a so-called hour-glass contraction, or it may be closed in by constriction of the cervical fibres, making hours of needless distress to the patient.

I judge from conversations with medical gentlemen that the frequency with which the retention of the placenta is met is considerable, and I have taken pains to learn from these same gentlemen if ergot is usually administered by them after the termination of the second stage. I am in the habit of making a note of all such cases—those which I have seen with physicians and those of which I have learned simply in a general conversation.

While the list is by no means large, it is an honest one, and very instructive. It includes thirty-seven cases of retention. In thirty-three, ergot had been given, in two of which it was given prior to the birth of the child to hasten lingering pains.

In four of the cases only, ergot was not administered, so far as I could learn. Of these, one was a cross-birth—a large child requiring considerable manipulation to accomplish a delivery. The second was a premature birth at the end of the sixth month—the mother injured by falling over a chair. The third was a preternaturally large child, with prolonged labor and instrumental delivery. The fourth, a case of hydrocephalus, requiring prolonged instrumental interference.

Of the thirty-three cases above mentioned, all were vertex presentations, five being mild instrumental cases.

It is not difficult to formulate satisfactory reasons why the four cases of dystocia should have been accompanied by retention of the placenta ; in fact it is well known among accoucheurs that the very conditions which existed in these four cases, by their injuries to, or their irritation of, the uterine tissues, and exhaustion of the nerve force of the patient, readily invite irregular and spasmodic contractions of the uterus.

But why should the thirty-three cases of normal delivery be accompanied with retention unless from some extraneous cause ? These were the cases where ergot had been administered, and it is almost equivalent to a demonstration that ergot caused the retention.

Prof. J. W. Compton says, and I fully agree with him : “Another objection to the use of ergot in ordinary practice is the frequency with which after-pains follow its administration and continue from twelve to thirty-six hours, in spite of opiates. They are often so terribly distressing that the patient, instead of being in that quiet, serene, and happy state of tranquility that the trying ordeal through which she has just passed entitles her to, is restless, anxious, and suffers pains as intense and in some instances, in the aggregate, equal to those of parturition.”

We have so far referred only to the direct or primary injuries and distressful conditions produced by ergot.

We now mention some of its secondary results which so frequently complicate the puerperal state. We will name them in their order :

1. Suppression of the lochia.
2. Suppression of the milk.
3. Septic troubles.
4. Pelvic cellulitis.
5. Phlegmasia alba dolens.
6. Puerperal mania.
7. Embolism.

Ergot is like any other criminal—after one offense, often running up a long catalogue of offenses. One severe placental retention might easily be followed by suppression of the lochia, and fever ; this by suppression of the milk, and this possibly by either a puerperal mania or by a puerperal fever.

This is not merely guess-work. It is not the alarm of an active imagination. It is a statement of fact based on years of obstetric work, and confirmed by some of the best observers in the profession.

It is probably true that such conditions of the puerperium existed before ergot was ever known. But then there were causes for it in some injury or some physical condition which invited it. If then ergot can be proved to have wrought these evils *heretofore*, we can at least banish *this one cause* for evermore from the lying-in-room, a place it should never have been allowed to invade.

It is true that ergot does not always accomplish some one or more of these unfortunate results every time it is administered ; for I know several practitioners in this city who use it, and who do not consider themselves more than usually unfortunate in their obstetric work. It is *not* asserted that ergot is uniform in producing bad results, but that it does, *sometimes*, and too often.

It *is* asserted that ergot is never necessary during or after labor. It *is* asserted that it is often harmful when so used. Now, if it can never be necessary, and is often harmful, it should cease to be in the armamentarium of the obstetrician.

In actual post-partum hæmorrhage, i. e., where any sudden and great loss of blood has occurred, the first condition of the patient is that of **SHOCK**. In all probability, a dose of the fluid extract of ergot administered by the stomach would be immediately rejected ; if it should be retained, it would not be absorbed, hence it would be useless.

If the hæmorrhage should be so alarming as to threaten the life of a patient, hypodermic injections of ergotine, of course, should be added to any other measures deemed advisable ; but it is almost incredible for

so serious a condition of affairs to obtain, except in the delay of the arrival of the medical attendant. Any prompt intra-uterine use of the hot douche would be likely to control satisfactorily all excessive hæmorrhage.

Dr. Anvard, of Paris, in his Quarterly Report on Obstetrics and Gynæcology in France, published in the *American Journal of Obstetrics*, Jan., 1884, says as follows :

“Ergot, in its crude form, or as ergotine and ergotinine, which has for so long been employed in obstetrics, has had its prestige considerably shaken at the Maternité, thanks to the use of intra-vaginal and even intra-uterine injections of hot water. During a recent trip to Germany, having seen the happy results obtained from their use by Carl Richter and Runge, I mentioned the fact to M. Tarnier and to the head midwife at the Maternité. The method was at first tried with considerable doubt ; but so good were the results that at the end of several days hot injections were the only means used, to the exclusion of ergotinine, and for the last three months neither ergot nor any of its derivatives have been employed at the Maternité. At the outset the injections were simply vaginal, and only in cases of hæmorrhages a solution of the sublimate (1-2000) being used. With increasing familiarity with the method, however, they were given intra-uterine, and after every labor, the strength of the solution being 1-1000.”

The three advantages belonging to this method are that it is hemostatic, antiseptic, and seems to favor involution. For the purpose of injecting, a glass irrigator with a canula of the same material is used, and the temperature of the solution should be at 50° C., or a little above—a degree, in fact, just short of burning the accoucheur.”

Ergot exerts the same peculiar influence over blood supply in all parts of the body, wherever the non-striated muscular tissue is found. Its primary sensible action is upon the nervous system, while its more prolonged action gives rise to radical changes in tissue nutrition. All the evidence goes to show that the modifications of nervous action and control are consequent upon a diminished supply of arterial blood to the cerebro-spinal and the ganglionic nerve centres.

Hence, it is not surprising that we find ergot occasionally affecting the blood supply to the breasts and a consequent diminished lactation.

Since the occasion for which ergot is administered generally precedes lactation two or three days, it is difficult to say how far the drug may influence that function ; but there have been observers who claim that it has been known at times to materially affect the milk, and almost to permanently arrest its supply.

One instance is cited where ergot was administered for some days to a nursing mother for inflammation of the neck of the bladder, and re-

sulted in almost total suppression of the milk. I myself once prescribed ergot, at about the third week of lactation, to control a hæmorrhagic discharge which was rather persistent, and found the secretion of milk almost entirely suppressed and remaining so for a week.

When it has become necessary to dry up the lacteal secretion, I have occasionally used ergot, and successfully, in expediting such a course; so I have little hesitation in saying, although its effects on the milk secretion are not always so apparent as when given in other conditions and for other purposes, yet it has a power which makes it dangerous to administer it to the nursing mother.

Ergot is a powerful agent in causing subinvolution and displacements. It rarely compresses the uterus equably; it usually selects some band or bands of muscular fibres upon which its force is expended, to a greater degree, at any rate, than upon the organ as a whole. The result is that the uterus does not contract equably, it is distorted, involution is retarded. We then have the customary sequences of subinvolution, displacements, and possible reflex nervous conditions.

The uterus being the starting point of danger, anything which disturbs its composure or irritates its tender walls invites inflammatory action; and as nothing is more unnatural than the persistent spasm of ergot action, it is not surprising that the administration of this drug should sometimes be responsible for *uterine* and *pelvic inflammations* of a grave character.

When ergot is specially energetic in its action, it always leaves the uterus a large and very hard mass, without regard to its symmetrical contraction; this often continues for some days.

Blood clots are imprisoned by the constriction of the muscular fibres at the junction of the lower segment. Opportunity is denied their removal by Nature's way. Drainage, the great safeguard to the mother, is compromised.

This blood clot is retained to act as a foreign body, to press against and forbid the proper emptying of the uterine sinuses, and becomes in itself an inviting field for micro-organisms and a most potent origin of septic infection.

This condition of the uterine sinuses, moreover, may become dangerous, as being the starting point of embolism.

To recapitulate:

First.—Ergot, administered prior to delivery, produces a frightful mortality among the infants.

Second.—It is liable to produce rupture of the uterus, as well as of other maternal soft parts.

Third.—It is improper treatment, in lingering labors, with inertia uteri, as the forceps are far safer to both mother and child.

Fourth.—Ergot is a more frequent cause of the retention of the placenta than all other causes.

Fifth.—It adds much needless distress to already exhausted mothers, by the prolonged after-pains.

Sixth.—The retained placenta is frequently the cause of other disasters, the manual or instrumental interference necessary to dislodge it often producing traumatism or sepsis, or both ; and from these, we may have perimetritis, suppression of the lochia, suppression of the milk, and we may even have puerperal insanity and embolism as indirect sequences.

The same argument may apply to the retention of clots.

Seventh.—It is a very potent factor in the production of subinvolution and displacements.

Eighth.—Ergot is never necessary. If there is no more than the usual moderate hæmorrhage which ordinarily accompanies a delivery, the uterus will take care of itself. If there should be a sudden and alarming hæmorrhage, the patient is already suffering from shock, therefore the use of ergot by the stomach would be useless ; and if it was not immediately rejected, it would not be absorbed.

The hot-water intra-uterine douche is efficient and preferable for controlling the hæmorrhage.

In dangerous cases of post-partum hæmorrhage, the hypodermic injections of ergot may be used, as this would be of value as against the negative results of ergot by the stomach.

Ninth.—Ergot has been condemned and abandoned by many of the largest maternities in Europe and this country.

Since the reading of this paper, Dr. Hyde has received a letter from Prof. Geo. J. Engelmann, of St. Louis, Mo., from which the following extracts are made :

* * * * * “My own views you know, as first expressed in a paper on ‘Ergot—the Use and Abuse of this Dangerous Drug,’ read before the American Gynæcological Society, at the Philadelphia meeting, in 1883, in which I condemn it on account of the prevalent abuse of it—an abuse which is not recognized on account of the insidious manner in which the injury is done.

“My opponents have said in reply that we might then condemn the use of morphia because harm is done thereby, or the knife because it proves a dangerous weapon in unskilled hands. Not so ; morphia is most useful, and harmless when properly administered, and *cannot be replaced*. So the surgeon’s knife—the mischief done by an abuse is evident ; both patient and physician can recognize the injury and trace it. Not so the insidious, gradually developing, rarely suddenly appearing

evil wrought by ergot ; but, in addition, it is *unnecessary*, not alone that it can be replaced, but it can be replaced by better means. * * * *
 * * * * Strange to say, that this drug, so inefficient when urgently needed, as in post-partum hæmorrhages, has so powerful a hold on the profession in this country. It has been to the great mass of physicians what the forceps are to the progressive obstetrician ; and for that reason I say that it had better be abandoned altogether. I need not enter upon the pro and con ; you know my argument and you know the position taken by obstetricians abroad ; as you say, it is relegated to the past.

“ When I read my paper in 1883, but few were prepared to take the extreme ground I advocated. The majority of the able obstetricians present appeared to discountenance my position. Albert Smith alone accorded me a hearty endorsement, opening his remarks with the words, ‘ I do not know of any subject to which I would give a more hearty response than to what Dr. Engelman has said against the use of ergot, which I consider as an unmitigated evil in the practice of obstetrics.’

“ What the practice throughout the country now is I cannot say. I trust that it is undergoing a change ; but unless the issue is forced, the deep-rooted habit of ergot giving in labor will still linger for a long time to come.

“ The tone of your letter leads me to suppose that it is still common practice in the East, and is even followed in hospitals. I presume that this is still the case here among the majority of practitioners, especially such as rarely use the forceps ; but when the danger of tonic contraction of the uterine muscle, of incarceration by the superior power of the circular fibre, the danger of laceration of the cervix and perineum, of rupture of the uterus, and death of the child, is clearly demonstrated, I believe that even they will look for other means and will forever cast aside this dangerous drug. Abroad the question has been settled, hence you see nothing in the journals ; but in this country, where ergot, moreover, has had a far more powerful hold, the practice continues. True, it is settled in the minds of progressive obstetricians in the large centres, and no longer possesses interest for them, hence the silence here ; and yet here the mischief wrought has been far greater than abroad, as every midwife here has access to this poison, while abroad she was limited to the very harmless tincture of cinnamon. * * * *
 It has been given during labor, when the forceps, friction, quinine, opium, or patience would have been in place ; for the contraction of the uterus in the third stage, when massage, expression, faradism, or time would have served the purpose better ; and to prevent or control post-partum hemorrhages, when massage, faradism, or the hot water antiseptic douche—vaginal, and, if need be intra-uterine—would have elicited a more ready and positive response. * * * *

"It is but natural that the practitioner who is far removed from the facilities of the great centres should be unwilling to cast aside so simple a method which he has moreover been taught to rely upon; yet you may rest assured that, when the true status of affairs has been clearly demonstrated, no one will be more ready to acknowledge and cast aside his error than the American practitioner.

* * * * * "I am well aware that now and then, under certain conditions, it may be given with advantage, even during labor; but I do not think that it is essential. The same purpose can be served by other means; and in order to check the promiscuous abuse, and prevent the serious injury which is constantly done by the drug, lay it aside altogether; the trifling advantages do not compensate for the serious injuries.

I remain truly yours,

GEORGE J. ENGELMANN."

St. Louis, Mo., Nov. 19th, 1887.

DISCUSSION.

Dr. FRANCIS H. STUART.—Mr. President and Gentlemen: It would be rather difficult for me to say very much upon the subject of the use of ergot in the lying-in-room without appearing not to have as modest an estimate of my own opinion or my own method of practice as I really have, but a statement of the facts would be expected from me if I took any part at all in this discussion. Before referring to my own experience, I may call the attention of the members to that little classic of Dr. John Beck, entitled "Infant Therapeutics," (the second edition, published in 1852,) in which occurs an essay by him upon the use and abuse of ergot, which I would commend to every one to read. Fortunately, my attention was called to it early in my practice, and I was fortunate also in being able to secure a copy of the book, which has been so long out of print. I believe there is a copy in our own library; if it is not, I know where one can be had, and I will take great pleasure in seeing that it is on the list of our books. In that classical essay he gives the history of the introduction of ergot by Dr. John Stearns, then living in Saratoga. He afterwards moved to New York. He very clearly lays down the rules for the use of ergot, and those rules, after nearly eighty-one years (for it was in January, 1807, that Dr. Stearns wrote the letter which was published in the *New York Medical Repository*), have never been improved upon. They are as clear and as definite as anything that has been written on this much-written subject since.

That Dr. Chapman, of Philadelphia, should have laid to the use of ergot the loss of his practice from a strange mortality among the children and from child-bed fever, unless Dr. Stearn's practice was contrary to

his teaching, is, in my opinion, one of those unmerited condemnations of a man, which has in the history of our profession often overtaken very worthy men. And it also shows on the part of Dr. Chapman fallacious reasoning upon the subject; for it would be extremely difficult, in my opinion, to say that any case of puerperal fever was due to the administration or to the withholding of ergot, so many factors entering into the production of puerperal fever.

In this article of Dr. Stearn's he distinctly states that ergot should not be administered unless the delivery is imminent. This is one of his first statements. He also distinctly lays down the rule that before the administration of ergot the practitioner should make certain that there is no obstacle to the immediate delivery of the patient. This carries with it the full dilatation of the os and that the parturient canal is dilatable. But I need not enlarge upon that. I merely call your attention to it.

In regard to the part of the paper which is historical and which is devoted to the argument against the use of ergot previous to the delivery of the child, I can hardly see why that should engage our attention in the discussion of the paper. In the same work of Dr. Beck there are many facts given by very careful observers to show the very point that was urged in the paper: that the giving of ergot previous to the delivery induces the death of the child and injury to the mother. The statistics there given are startling as regards the number of still-births. Dr. Beck's essay was so extensive in its influence that I am surprised that it should have been thought necessary to again go over the ground.

In this connection I may say that while I held the position of Registrar of Vital Statistics in the Board of Health, my attention was specially called to the fact that the number of still-birth certificates handed in there was very largely from midwives. I made some inquiry at the time and sought an explanation of the fact that so many more still-birth certificates came from midwives than from the profession. I asked the question: "Are there more deliveries by midwives than are made by the profession in Brooklyn?" If so, that might explain the fact that most still-birth certificates came from midwives. But I could not ascertain how many midwives were practicing. I did not believe there were as many deliveries made by midwives in this city as by the profession. And I instituted further inquiry as opportunity offered, and I found it was a common practice for midwives to administer ergot to hasten delivery, and that one fact seemed to point to an explanation as to why they had so many still births. I present that here as a point in confirmation of what the writer has brought forward against the use of ergot previous to delivery.

I will not detain the Society longer now than to state what my practice has been and what my personal views are, if I may be allowed to take up a few minutes more.

It has been my rule to administer ergot always *after* delivery. Of late years I have given more attention to the care of the patient and also have modified my mode of administration of ergot. But I will broadly state that I *always* use ergot. Some of you will recall that a few years ago Dr. Thomas, of New York, did the Society the honor to come over here and discuss the subject of puerperal hæmorrhage before the Society. In that discussion he used words to this effect: that he would judge of a man's qualifications for the practice of obstetrics somewhat in inverse ratio to the number of cases of hæmorrhage he had. That if a man had many cases of puerperal hæmorrhage, he would say there was a screw loose somewhere in his obstetric practice. Dr. Thomas, as you know, is very fond of strong and unqualified statements, but that seemed to me to be a statement that was borne out by what I could learn of the best obstetricians in the city: that very few cases of puerperal hæmorrhage occurred in their practice. It is due, I should say, largely to their care in the management of their cases. In my own practice I have had but three cases of hæmorrhage that were at all of a serious amount. Two of these cases were the same individual at different confinements. It was my misfortune, nine years ago this summer, to have two patients die from puerperal convulsions, which were in subjects who were the victims of chronic Bright's disease. Those are the only two deaths that I have had in my obstetric practice, outside of hospitals. I do not mention this fact in any spirit of boastfulness. Far be it. I may be called to-night, after I leave this meeting, to a case that I may have the misfortune to lose. I wish I could give the number I have attended. It is certainly in the neighborhood of 1,500, and probably considerably more. If we were going to argue from statistics alone, here would be a very strong argument for the use of ergot in obstetric practice.

In the paper just read there is quite a list—nine I believe, of reasons why we should not give ergot. Some of these comprise the results of ergot. One of these results prominently brought forward was puerperal fever. In my private practice I have had very few cases, and if I had been dependent for acquiring knowledge of puerperal fevers from personal experience in my practice, I would not feel that I knew much about them. Fortunately, I had a large experience in the two hospitals with which I have been connected.

All other unfortunate results from ergot which have been mentioned may, I think, be divided into two classes: 1st. Those that were attributable to the giving of ergot previous to the delivery. This, I understand, is not the practice among intelligent physicians nowadays, and hence all of this class may be ruled out of the discussion. Now in regard to the other: the administration of ergot after delivery. When I had the instruction of students in this branch confided to me, I gave the matter

of the lying-in room a great deal of careful thought and attention, so that I might be able to give them the best instruction possible. I have never been able to trace any untoward result to the practice that I have followed and taught. I have used ergot in the way I will now speak of. Formerly, I gave a drachm of ergot on the delivery of the child. I had it ready to give, preparing it myself before the delivery, but never gave it until after the child was delivered, but I have given it before the delivery of the placenta. In my private practice I have never had the misfortune to have a case of the so-called hour-glass contraction. I think that may be due partly to the management, or it may be due to the other causes that have contributed to my good luck in the lying-in room. I have seen several cases in consultation and several in the hospitals, and I cannot now see how ergot can be said to have caused the hour-glass contraction. It is a little difficult for me to see how one can come to the conclusion that ergot acts upon some few fibres of the uterine muscle and not upon others. It may be so, but in the experience I have had I never saw anything pointing to that.

At present I am inclined to give ergot in divided doses. I measure a drachm of ergot into twelve teaspoonfuls of water, and give a teaspoonful of that once in fifteen minutes until the whole has been taken. Some one will ask, "Why have you changed your practice!" I may say that I have been simply experimenting, and have been doing so for six months or more to see if there was any difference.

One of the evils attributed to ergot in the paper, was that it caused after-pains. I think after pains can be controlled by the practitioner if he will take time, as he ought also to take time for the delivery of the child and not rely upon ergot to hasten delivery. I said I prepared the ergot myself before delivery. I do this that I may be free at the time the child is born, so that I may give my attention to the uterus. This I do in the following way: Following the delivery of the child, with my hand upon the fundus (and if I have to leave it, I do not withdraw my hand until another hand is there to take its place), I press the uterus with the hand all the time, from the moment the child escapes from the uterus until at least fifteen minutes or half hour after the placenta has been expelled, and never for a single instant is that pressure relaxed. As a result of that practice, now for more than ten years, in every case (and I cannot recall a single instance where I did not do it), I have known, in the first place, exactly what was the condition of the uterus after the child was born. If there was any distinct relaxation of the uterus it could be compressed. I make the distinction between the mere holding it down in the pelvis and the grasping of the uterus as you would a rubber ball to squeeze water out of it. There is a great difference between them as you will all see and know.

I believe this compression of the uterus to be one of the most important points in preventing post-partem hæmorrhage, and also in preventing after-pains. It secures the continuous contraction of the uterus, and it gives time for the absorption of the ergot, so that the contraction of the muscular fibres is then continuous, after you have secured the complete contraction of the uterus by pressure.

I have not had troubles with the bladder as a consequence of giving ergot. On the contrary, I am in the habit of giving a small dose of ergot where there is retention of urine. I remember a good point which I got from Dr. Giberson, whom you all remember, and which he got from Dr. Barker. He said that Dr. Barker told him that he had not used a catheter for twenty-five years, but he gave small doses of ergot when there was retention of urine, and it had the desired result. I have not had quite such good results, having had to use the catheter in one or two instances.

Dr. CHARLES JEWETT.—As regards the use of ergot in the first and second stage of labor, none present I presume would think of taking exception to the views expressed in the paper. They are entirely in keeping with the best teachings of the past twenty years. Ergot in full doses tends to establish a tonic contraction of the uterus and thus interferes with the blood supply to the foetus, and consequently endangers its life by impairing the respiratory function of the placenta. In addition to this it jeopardizes the interests of the mother by increasing the danger of lacerations and by complicating delivery in case of obstruction, or in case artificial interference is called for. It seems to me important, however, to distinguish between the effects of large and of small doses of ergot, a matter too often lost sight of in discussions of this subject. Wood, of Philadelphia, is authority for the statement that ergot in small doses simply intensifies the normal uterine contractions. By a small dose is meant ten minims of the fluid extract, or its equivalent, given by the hypodermic method. I have no doubt that the drug in very small doses might be safely used in pure inertia uteri. But I would not be understood to advocate this practice, on the contrary, I condemn it for the reason that we have other and better means for the purpose.

The only important point with reference to which there has been any recent change of practice in the use of ergot is its administration in the third stage of labor. Formerly it was the custom with most of us to give ergot on the expulsion of the head. Now practice conforms to Pajot's law which forbids ergot till the uterus is empty of child, placenta, membranes and clots. Possibly the reaction has gone farther than necessary. I am not sure that complications of the placental stage were more frequent in my experience under the old practice than in the new. Yet this may have been due to the practice which I formerly followed of

urging prompt expulsion of the placenta. If the placenta has descended so far that a portion of it lies in the contraction ring, it is not likely to be locked up by an ergotic contraction, on the contrary, its expulsion may be favored thereby.

In regard to the question that has been raised as to the action of ergot in causing hour-glass contraction and consequent incarceration of the placenta, there is possibly some misapprehension. This matter is made plain by referring to the anatomy of labor. Early in the labor the muscular structures are retracted into the upper portion of the uterus, the lower portion is correspondingly thinned. Hence we have an upper and a lower segment, the one quite thick, the other exceedingly thin. The line of demarkation is the ring of Bandl, or the contraction ring. The contractions of the third stage are confined to the thickened muscular upper segment. If a vigorous contraction occurs while the placenta lies high in the uterus, the contraction ring may close, imprisoning the placenta. The uterus will then present a globular upper segment, and a lax and expanded lower segment, separated from each other by a constriction at the contraction ring. This I believe is the condition commonly termed hour-glass contraction. It is abnormal only by reason of the retained placenta. Ergot may do harm by bringing about a premature closure of the contraction ring, but the accident is one of unequal resistance rather than unequal action of ergot on different portions of the upper segment.

The correctness of the statement that ergot causes retraction of the cervix in the third stage, I doubt. The flaccid condition of the cervix that follows the birth of the child I believe is little affected by ergot.

The claim that ergot retards involution does not seem to me rational. The increased blood supply required during gestation for the development of the uterus and the growth of the ovum is no longer needed after labor. Nature then goes to work to dispose of the superabundant muscle. The retrograde process is largely due to the fact that the blood supply to the uterus is diminished by the retraction of its muscular walls. Ergot after labor acts in the line of nature, and it would seem should favor and not retard involution.

Again, it is claimed that ergot favors the development of puerperal fever. Two conditions are necessary to child-bed fever or septicæmia; first, the presence of the pathogenic micro-organisms; and, second, a soil in which they can thrive and multiply. Retention of clots in the uterus provides one of these conditions. But if the third stage is properly conducted, as Dr. Stuart has explained, the use of ergot in proper doses at its close helps to prevent septic mischief; for it helps to maintain permanent retraction, to prevent relaxation of the uterus and the accumulation of clots in its cavity.

Dr. BOGART.—Do you give ergot in all cases after the expulsion of the placenta, and how much do you give?

Dr. JEWETT.—It is my practice to give ergot in most all cases after the uterus is empty. If the uterus comes down firmly and promises to remain so, I do not give it. In the majority of cases I use it before I leave the patient, to keep the uterus well retracted. My dose is half a drachm, to be repeated if necessary. I give it for the purpose of preventing hæmorrhage, as a precaution against sepsis, and generally to diminish after-pains, though I grant that in certain conditions of hyperæsthesia it may increase them.

Dr. T. M. ROCHESTER.—I think Dr. Hyde struck the key-note of the use or abuse of ergot when he said, "Why give it if it is not necessary?" And while Dr. Jewett seems to think it prevents after-pains by giving it, and prevents hæmorrhage and keeps the womb firmly contracted, Dr. Hyde's experience seems different. My own experience is that I have had less after-pains since I ceased the use of ergot than when I used it.

As regards this point of hour-glass contraction, I had the misfortune to be called in consultation in two different cases where the physician in attendance had been giving ergot before delivery. In both of these cases hour-glass contraction followed, and I attributed it to the use of ergot before the child was born. I think it is experience in this thing. If you get your after-pains, then you can tell whether it is the ergot that helps to relieve those pains or not.

Dr. W. B. CHASE.—Statistics have been referred to as having an important bearing upon the subject under discussion, and it is unfortunate that we have no statistics to show how puerperal patients would behave without the use of ergot. The inference from what has been said to-night would seem to be that there was a need felt for an agent like ergot, and that fortunately Dr. Stearns' discovery supplied that need. We know he was reasonably conservative in his directions for the use of it, yet if we were asked why we used ergot, we should say because our teachers told us, and because we fear post-partum hæmorrhage. It is a remarkable fact that the honored gentlemen who to-night have advocated the use of ergot in the third stage of labor, are the gentlemen who have been teaching it for years. But it is evidence, also, that there is distrust in the power of nature to take care of herself. When our professor of obstetrics tells us to do so we feel reluctant to demur.

Now, I believe if we trusted more to the experience of the gentlemen who get along very well without ergot, we would use it a great deal less. In my own experience I have been in the habit of using it uniformly throughout the third stage of labor, but more recently I have not used it, and I do not see but what my patients do just as well. I think the use of ergot may be productive of mischief, after confinement; it may interfere with the drainage which should take place from the uterus; it

may produce hour-glass contraction, as referred to by Prof. Jewett, and in that way prevent the discharge of clots; and I have very little reason to doubt that if the members of this Society were to go one year without the employment of ergot, trusting more to the *vis medicatrix naturæ*, we might have a basis of comparison which would lead to entirely different conclusions as to the necessity of its routine use. On the whole, I am not only inclined to accept the views of the author of the paper as sound and conservative, but must regard it as a timely warning to the evils of a practice which is not only empirical, but in most cases not only contraindicated but devoid of good results, if not positively injurious.

Dr. W. F. MILLINGTON.—I would like to state my little experience. For the first five or six years of my practice I used ergot after the delivery of the placenta, simply because I had been taught to do so. I then ceased giving it, and during the last five years of my practice I have had no trouble whatever with cases of flooding, and I have used ergot in no case excepting after a protracted labor or instrumental delivery. I think that where we have instrumental delivery that ergot should always be given. The fibres of the uterus are tired and they want stimulation, and in these cases ergot can be usefully used.

Dr. C. N. D. JONES.—I think we are greatly indebted to Dr. Hyde for calling our attention to this subject. My views are in hearty sympathy with most of the opinions which he has advocated. I wish to call attention to one of the physiological effects of ergot that has not been sufficiently dwelt upon. I will first state that it has been my custom, until within a year or so, to give ergot after delivery, as a routine practice, according to the prescribed rules. But lately in many cases I have not used it, and the result in these, I think, was equally as good as in those where it was used.

The author has referred to the fact that ergot increases the tendency to puerperal septicæmia. My experience with this disease is limited to cases occurring while interne in one of the hospitals. In these cases ergot was given, and I am inclined to believe that it did more harm than good. It is easy to see how ergot works an injury in these cases. It has been stated by authorities (and I have noticed the same thing), that if one or more of the fingers be held in the cavity of the uterus while a large dose of ergot is administered, it will be observed that the uterine contractions commence in the lower segment, that is, near the external os, and are stronger in this region than in the fundus. I think this continues throughout the duration of the effects of the ergot, and of course the natural tendency of this would be to retain the discharges and prevent thorough drainage, thus providing a medium for the development of all kinds of germs. A certain distinguished surgeon has gone so far as to state that drainage is better than all the Listerism ever devised.

TWO CASES OF RECTO-VAGINAL FISTULA OCCURRING
AT LABOR: IMMEDIATE OPERATION: RECOVERY.

BY WALTER B. CHASE, M.D., BROOKLYN.

[Read at the meeting of the Medical Society of the County of Kings, Nov. 15, 1887.]

Seven years ago I attended Mrs. — in labor, aged about 20 years. The patient was in excellent physical condition, and the first stage of labor was completed within a reasonable period of time. The second stage was quite slow, but progressed favorably until the head pressed upon the perinæum, and though the pains were regular and vigorous and seemed adequate to overcome normal resistance of the soft parts, it did not advance. After waiting a proper length of time, I applied Elliott's forceps, and, with very moderate traction, brought the occiput out from under the pubes, and as the head was, as it appeared, just passing the perinæum, which was fully distended, I did, what is often my custom, remove the forceps.

After waiting patiently for two or three pains, at each of which it seemed the head would pass, but as it did not advance, I introduced the fore-finger of my right hand into the rectum and made gentle pressure forwards and upwards, when, to my great surprise, my finger passed directly into the vagina, making, as it passed, a rent in the recto-vaginal tissues about one-half inch above the sphincter of the anus, three-quarters of an inch in length, from which two or three pints of amniotic fluid burst forth in a stream, as water flows from a penstock, passing through this rent and the anus, forming a large puddle at my feet. The explanation as to the arrest of the normal progress of labor in the second stage and the delay which preceded the escape of the head from the perineal grasp, was now apparent.

The close approximation of the uterine and vaginal tissues to the entire circumference of the foetal head during all of the second stage of labor, had prevented the escape of that portion of the amniotic fluid which was behind the head at the time of the rupture of the membranes, and had left the uterus distended, distributing the uterine pressure over a much larger area of surface than it should have done, thereby diminishing the propulsive and expulsive power of the uterine contractions a condition not unfrequently met with in the practice of every obstetrician, which is only another demonstration of the same principle of increased expulsive uterine power as manifested very frequently in labor, by the rapid delivery of the patient when the membranes rupture either spontaneously or artificially after the first stage of labor, for the more nearly

the uterus is emptied the thicker its walls become, and the greater its power as a contracting force. The tense condition of the recto-vaginal wall, on account of the pressure of the fluid between it and the foetal head, serves as a rational explanation as to how very moderate pressure, which under ordinary circumstances would have been perfectly harmless, was, under these circumstances, followed by tear and the condition of recto-vaginal fistulæ. To avoid, if possible, the consequences of such an injury, I decided to operate at once, and was assisted by Mr. Frank L. R. Tetamore, then a medical student, but now a practitioner of medicine.

The parts were easily reached and exposed through the vagina, and the torn surfaces were accurately approximated by three or four interrupted sutures of fine silk, and tied on the vaginal surface. These were introduced by a small curved needle, with the fore-finger of my left hand in the rectum as a guide, care being taken to place the stitches near the margin of the opening, with a view that, should they cut their way out without union taking place, the fistulous opening should not thereby be made unnecessarily larger. One week thereafter I examined the patient, my friend Dr. Geo. R. Fowler being present, at which time the fistulous opening was entirely closed, and the patient made an excellent recovery.

Case II.—Mrs. —, aged about 21 years, a primipara, was delivered September 26, 1887. I saw the patient twelve hours after labor. Her physician, who is a careful obstetrician, informed me that when he was called to attend the woman, she had been in labor for thirty-six hours, under the care of a midwife who had deserted the case, and at that time he found the head pressing upon the perinæum. The pelvis was relatively small as compared with the diameter of the foetal head, and after waiting a short time to satisfy himself of Nature's inability to complete the labor, he applied the forceps and delivered the mother of a living child.

Though the delivery was terminated, as I believe, with consummate skill, the doctor informed me there was complete rupture of the perineal body, also a rent in the posterior vaginal wall communicating with the rectum. A careful inspection of the parts revealed an irregular rupture of the perineal body, slightly to the left of the median line and partially around the anus, and a second laceration at an acute angle with the first, commencing about an inch and a half above the anus and running in the direction of the right labia. There was a tear parallel with the long axis of the vagina at the bottom of the upper portion of the ruptured perineal body three-quarters of an inch in length, one inch above the anus, extending into the rectum, and from this fistulous opening considerable fecal matter had escaped into the vagina. On either margin of this opening the tissues covering the rectal wall were, stripped up, the gut

being uncovered and making a ragged and rather irregular opening. The steps of the operation were briefly as follows:

The parts were carefully cleaned by washing and made as nearly as possible aseptic by the use of hydronaphthol solution. By flexing the woman's legs upon the abdomen and making lateral pressure at the line of rupture, the torn structures were brought into easy view. The integrity of these tissues was so greatly impaired from long sustained pressure of the foetal head as to leave but little resistance, and great care was required in introducing and tying the four interrupted catgut sutures so as to properly approximate the parts without farther tearing, after which the double rupture in the perinæum was closed with the same material, and the patient's knees fastened together. Instructions were given to use a warm carbolated vaginal douche night and morning, and small doses of opium were given to restrain any evacuation of the bowels, though a spontaneous evacuation occurred on the fifth day.

An examination made by myself on the eighth day showed the fistulous opening to have closed in about three-quarters of its extent, though at this time small bodies of fecal matter were escaping into the vagina, about the size of a small pea, but after a few days these disappeared, and the patient said that neither gas nor any of the contents of the bowels passed from the bowel. One of the gentlemen who assisted me at the operation kindly examined the patient on November 5th, and informs me that the fistulous opening has entirely closed and that the perinæum is intact to about two-thirds its extent.

So far as my own observation goes, these are the only cases of recto-vaginal fistulæ I have met with as an immediate accident of labor, as a giving way of the recto-vaginal septum above the sphincter is commonly attended with complete rupture of the perinæum, including the sphincter. While unable in the time at my command to find much on the literature of the subject, I deem these cases of sufficient interest to be reported, and hope that the observations of some other members of the Society will add to our knowledge of the subject.

645 Marcy Avenue.

A CASE OF INTUSSUSCEPTION RELIEVED BY HYDRO-STATIC PRESSURE.

BY GLENTWORTH R. BUTLER, A.B., M.D.,

Associate Visiting Physician to the Department of Diseases of the Chest, St. Mary's General Hospital, to St. John's Hospital, and to the Methodist Episcopal Hospital, Brooklyn.

[Read by title before the Medical Society of the County of Kings, Nov. 15th, 1887.]

As a rule, it is not profitable to report single cases; but the comparative rarity of intussusception, and the prompt and gratifying relief obtained by timely treatment, induce me to add this case to those already upon record.

On the morning of October 31st, 1887, I saw, for the first time, a female child, aged 3 years, of German parentage. It had suffered for ten days from slight bronchitis and constipation. The latter had been easily relieved by common domestic remedies, until thirty-six hours previous to my visit. The bowels had then obstinately refused to move. During the thirty-six hours nearly three bottles of the ordinary solution of magnesium citrate had been given with no result, except straining and tenesmic motions, consisting of mucus with small amounts of fecal matter. The stools contained no blood. Paroxysmal abdominal pain had occurred, gradually increasing in severity. Vomiting began twenty-four hours previously, and at the time of my visit the ejected matter had a slight but suggestive stercoraceous odor. The child had eaten nothing, the face was pale and had an anxious look, skin cool and moist, pulse accelerated, temperature 99° . The breathing was restrained, more rapid than normal, and with an expiratory moan. Coughing intensified the abdominal pain, and caused a fit of crying. She had not slept for thirty-six hours. An examination of the chest revealed nothing beyond the signs of a slight bronchitis. An examination of the abdomen showed it to be distended and tympanitic. There was no special tenderness, excepting at a point to the left of, and on a level with, the umbilicus. At this point palpation gave a distinct sense of resistance, and was painful. It was not possible to accurately outline a tumor.

The child was placed on its face across the mother's lap, and the nates elevated. A soft catheter, attached to a fountain syringe, was then introduced four or five inches into the rectum, meeting with no opposition. Tepid water was slowly injected until the bowel was thought to be distended to the point of safety. Some of the fluid escaped by the side of the tube, but about thirty-five ounces probably entered. The child was then placed upon the left side, with the hips elevated by a pillow. The

enema was retained, and the child soon fell asleep. It slept for six hours, and then passed the injected fluid with a moderate amount of fecal matter. Pain and vomiting had ceased. It rested quietly during the night. The next morning, Nov. 1st, a natural and copious movement of the bowels occurred without pain. The child had regained its normal appearance and spirits. No further trouble of any kind was experienced.

The main points of interest in the case are these: First, the existence of signs and symptoms sufficiently characteristic to permit an early recognition of the abnormal condition before the occurrence of strangulation and peritonitis. Second, and dependent upon the early diagnosis, an easy and complete reduction of the invaginated bowel by hydrostatic pressure.

SOME POINTS ON TREATMENT OF FRACTURE OF THE PATELLA.

BY J. S. WIGHT, M.D.

Professor of Operative and Clinical Surgery, Long Island College Hospital.

Read before the Medical Society of the County of Kings, December 20, 1887.

Two years ago a sailor, about 50 years of age, having an ununited fracture of the left patella, came under my care. He appeared to be in good health, though he had a syphilitic taint. After careful preparatory treatment, I operated. The knee-joint was opened by a transverse incision, the ends of the pieces of bone were cut off; the pieces themselves were perforated with the dental drill; iron-wire was inserted, coming out through the integument above and below the incision; a rubber drainage tube was put through the joint; the flaps were brought together with horsehair sutures, and the wire was fastened over a small bridge of wood on the front of the knee.

In this case a large abscess formed in the thigh above and outside of the knee-joint; there was some surgical fever. At the end of about three weeks the wire was removed. The drainage tube had been taken out a few days before. The abscess was kept well drained. The upper fragment was kept down by adhesive plaster. The result in this case at the end of about two months was strong fibrous union, that contained some bone. The motion of the knee-joint was limited, but was improving by use. This patient was discharged, and has not come under observation since; but there is good reason to suppose that he has a strong and useful limb.

Case II.—D. M., a sailor, 24 years of age, going down stairs, Nov. 26, 1886, fell and broke his right patella. He had broken this bone twice before. As there was not much hope for union of the fragments under the usual treatment, he consented to an operation. On the 8th of December I operated the following way:

A longitudinal incision about two and one-half inches in length was made over the seat of the fracture. There had been only slight fibrous union. The adjacent ends of the fragments were exposed and cut off with a saw. The fresh surfaces of bone were then brought in apposition. This required considerable force. The cut surface of the lower fragment was somewhat smaller than that of the upper one. A hole was drilled through the lower fragment from its apex upward and backward, coming out at the upper part of the joint surface. A similar hole was drilled in the upper fragment downward and backward. A strong silver-wire, containing one-tenth of one per cent. of copper, was used as a suture, which held the fragments well together. On a level with the posterior surface of the patella two holes were cut, one on either side, into the knee-joint, and through these holes a drainage tube was passed. The flaps were brought together with horsehair sutures. An absorbent, antiseptic dressing was put on in front of the knee. The limb was put on a posterior splint, and confined by a bandage.

On the fourth day after the operation the drainage tube was removed, and the holes out of which it came were healed in a few days. Excellent primary union speedily took place in the wound of operation. The knee was quite painful for a short time, and then gave no further trouble. At the end of four weeks the patient was allowed to get up and go about on crutches. He improved rapidly, and soon walked better than he did before the accident. He then left the hospital. In about six weeks after the operation I saw him on a dock at the water-front, following his usual occupation. October 27, 1887, nearly a year after, I saw this patient; he had firm bony union of his patella. The motions of his leg were not impaired; and he said the limb was as good as the one that had not been injured. I offered to remove the wire, but he declined.

Case III.—D. R., a box-maker, twenty-five years of age, while running on the pavement, brought his weight forcibly on his left lower limb, and broke the patella. He was brought to the hospital December 13, 1886, the day of the injury. On examination, I found the left patella broken transversely near the middle. The patient had been drinking for some days, and his general condition was not good. The limb was bandaged and put on my inclined plane to prevent swelling and keep the fragments from separating. He improved so much that an operation was advised and performed ten days after the accident.

The operation in this case was similar to that performed on Case II.

A firm fibrous clot and a thin layer of bone were cut from the ends of the fragments. The wire for the fragments, the sutures for the flaps, and the drainage tube were similar to those used in the previous case. The drainage tube was removed on the fourth day. Good primary union of the flaps took place; and in about four weeks the patient was allowed to get up and begin to walk with crutches. In a few days more he was permitted to go home, being advised to be careful in using his limb. On the 20th September, 1887, about nine months after the injury, I saw this patient. He had firm bony union; the broken patella was as near like the other as possible; the motions of the left leg were quite as good as those of the right. There was no sign of the wire suture, and no sign of there having been a fracture. And the thought that the silver-wire had been absorbed suggested itself.

Case IV.—Mr. B—, 23 years of age, was sparring with some one, and sprang back on the left leg, which weakened, when his left patella broke, and he fell to the ground. This occurred on the 21st of February, 1887. He was treated in the usual way for eleven weeks without any union. He came under my observation on the 15th of September, 1887. He walked with a cane, and was liable to fall. I operated on his knee, September 28th, in a manner similar to that in Cases II. and III. The fibrous incrustation was cut from the ends of the fragments with a Hey's saw. The joint had many adhesions. The pre-patella bursa had been obliterated. The fascia was firmly adherent to the front of the fragments. It was difficult to bring the cut surfaces of the bone in apposition. And it required considerable tension on the sutures to bring the flaps together. This was due to the fact that the soft parts in front of the patella had settled into the furrow between the fragments, and become much contracted, and required to be stretched to cover the restored patella, as it filled up the furrow. The rest of the treatment was similar to that in the two previous cases. The drainage tube, which went through the joint, was removed on the third day. The repair in this case was not as rapid in Cases II. and III. In about five weeks he was allowed to get up and go about on crutches, which he laid aside in a few days, and then walked with a cane. He was discharged from the hospital, November 23d.

REMARKS ON THE OPERATION.

In the first place, the best opinion I can form is, that re-section of the broken patella and suturing the fragments will become an established operation. The four cases I have presented are the only ones that I have had or seen that presented bony union. I have had good results on the old plan of treatment, but do not remember a single case of bony union. Cases II. and III., above reported, had complete bony union,

and there appeared to be no impairment of function. The patients said their injured limbs were as useful as before the patella was broken. Case IV. has bony union, but will probably have some limit to the motion of the injured knee-joint.

As to the time of the operation, I would recommend that it be performed from ten to fifteen days after the occurrence of the fracture. This will give time for the absorption of the effused blood and the repair of the injured soft parts, so that they will be in good condition for primary union. It seems to me that the best results will come from early operations, though it may be desirable to wait longer than fifteen days in some cases. Of course, a case of non-union, the result of the usual treatment, may be operated on at any time it comes under observation; but then I would not expect as good a result as in an early operation.

I would recommend that the ends of the fragments be removed with a saw. I have used Hey's saw and the back saw. This gives two even cut surfaces of bone to bring into apposition. The retentive material that I have used is silver-wire, which is one-twentieth of an inch in thickness. I have not used catgut sutures; they would not be desirable unless they would hold for three or four weeks. My bone-screw, that I have used for holding the tibia and femur together in exsecting the knee-joint, might in some cases be employed to keep the fragments in apposition till union could take place. This instrument I may be permitted to show the members of the Society; at the same time I will exhibit specimens, or fragments, of the silver-wire.

DISCUSSION.

Dr. WIGHT.—These pieces of silver wire [exhibiting wire] are the ends I removed in my last operation after getting through. I only used one wire, and I would recommend the use of only one.

This is the instrument [exhibiting instrument] that I use for fastening the bones of fractures, and especially in the knee-joint. I have not used it for fastening the fragments of the patella together, but the first opportunity I have I shall probably do so.

Dr. HOPKINS.—I have been very much interested in this subject of fracture of the patella for a considerable number of years; and when I saw the announcement of Dr. Wight's paper, I was very sorry that four weeks ago a large collection of patellas, which had been removed and preserved by me, had been accidentally destroyed.

I want to make one or two points in regard to the pathology of these fractures. It seems to me that there is hardly any surgical injury in which so many methods of treatment have been recommended and claimed to

be eminently satisfactory, and I think that is owing to the different distribution of the ligaments around the patella bone. In some patellas which I have removed, I have found that the ligaments were largely distributed on the side, and in others that the ligaments were not only distributed largely along the sides of the bone, but were deflected over the front portion. It seems to me that in certain fractures where the distribution of the ligaments is very slightly over the front of the knee-pan, that in those cases, unless the lateral portions of the ligaments are ruptured, you have no surety in treating those fractures by ordinary splint methods. The difficulty comes in where the lateral ligaments are divided. In those cases we usually find a large amount of blood and serum thrown out between the fragments. In a case which I operated on last Saturday, I found the ligaments very largely distributed over the anterior portion of the patella bone, and it struck me in that case, and in some other cases that I have operated upon, that the lesion was caused by three steps. In the first place the bone is fractured, the lower portion of the bone being fixed is held against the tibia and thrown up, the edge being sharp it cuts the portion of the tendon deflected over the bone of the patella, and that lessens the strained portion of the knee. Then, if the force still goes on, the lateral tendons, either both or one, are torn, and so the lesion is serious or not very serious.

In this case there was about half an inch of a very thick anterior reflection of that tendon that projected from the upper fragment, and about a quarter of an inch of the lower fragment entirely bare. In such cases, it seems to me that the silver wire, as described by Dr. Wight, is the plan of treatment, and the very best plan of treatment. Lister has suggested the use of a little heavier wire than that used by Dr. Wight. The wire I used was one-twentieth of an inch. I gave it a twist, and brought the ends down upon the lower fragment of the patella.

Another point in relation to the fracture of the patella is the fact that in children, in dissecting out the patella of children of three years of age, I find that there is very little of the tendon reflected over the anterior portion, nearly all lateral, and the bone of course principally cartilaginous.

In wiring I do not feel that it is always necessary to resect the portion of the bone. I think that a bradawl, as suggested by Lister, is the best drill you can get hold of. You can make your openings correspond to each other by using two, passing one diagonally through the lower fragment upwards, and the other downwards and inwards through the upper fragment, and in that way getting your two openings to correspond exactly so that your wire will draw the fragments into exact apposition.

I might say that in this case which I operated on the other day, the temperature had not gone above $100\frac{1}{2}^{\circ}$, and to-day is the fourth day and the temperature 99° .

Dr. BURGE.—I have never done this operation myself; but as I had the pleasure of presenting to the society an apparatus for the ordinary treatment of fracture of the patella some years ago, which I began the use of perhaps fifteen years ago, in which weights and pulleys were used (I need not describe the apparatus now, it is probably familiar to you all), I want to say that, notwithstanding the fact that I have had perhaps as good results from my treatment of fractured patella as anybody, I am very much interested in this method. I have seen enough of it in New York and here to be strongly impressed with the fact that in a large proportion of cases it is the course to pursue. As to the best time for doing it, whether immediately after the accident or ten or fifteen days later, I am not prepared to say. However, I am inclined to think that the period suggested by Dr. Wight would be perhaps about the best period for cases that are judged to demand that treatment. I am willing to be put on record as decidedly favoring the operation from what I have seen. I have seen a good many cases operated upon by Dr. Dennis, of Bellevue Hospital, and quite a number of others in New York, and some of those I have seen were actually able to dance within six weeks from the time of the operation.

Dr. BUCKMASTER.—I feel rather loathe to say anything when there are so many gentlemen present of larger experience than my own; but there is one thing, and that is that Dr. Dennis noted a great many deaths from this method, and I would like to hear from the Doctor in regard to the dangers of the operation. I read with great interest a paper by Dr. Rushmore, some few months ago, that was read before the Surgical Society, in which he brought out the points that Dr. Hopkins mentioned, and which have also been brought out by an English surgeon whose name I cannot recollect. Within the last month, at St. Peter's Hospital, I have used Malgaigne's hooks in cases of fractured patella, and there was no disturbance of any kind for about fourteen days, and then there was a slight sloughing about the points where the hooks entered above, and they had to be removed.

The question of the absorption of the silver wire is an interesting one. I removed some silver wire from a cervix that had been lying there over a year and a half, and there was no absorption. I have seen it removed after longer periods without any absorption having taken place.

I saw an interesting case some time ago, and one which I believe is very rarely one's fortune to meet. I saw a patella that had been fractured a few minutes after the accident occurred, and I could then rub the fragments together readily. In an hour from that time the joint was full of fluid, and there was a separation of one and three-quarter inches.

Dr. JONES.—I have here a specimen which illustrates what Dr. Hop-

kins has so well explained. [Submits specimen.] If you examine that specimen, you will see that a portion of the ligamentum patellæ and other otherwise fibrous tissue has fallen in between the fragments, so that union than by fibrous tissues would have been impossible. The patient from whom that specimen was removed fell down an elevator shaft, broke his patella, and sustained other injuries, from which he died in about four days. The joint was distended with a large amount of effused blood clots and fluid.

I think in many of these cases the operation as described by Dr. Wight is the only means that will give a good result. In regard to Malgaigne's hooks, I think it was Dr. Keeley, of England, who recommended their use with proper antiseptic precaution. Nussbaum says their use is very likely to be followed by tetanus and other bad symptoms. Tisch, of Germany, recommended that the two fragments, the upper and lower, be fitted with a thick band of gutta-percha attached. This is gradually moulded, and then the fragments are brought together by the Malgaigne hooks, which are attached to the hard rubber instead of the skin and bone.

Dr. CHASE.—Without taking up the time of the society, there is one question regarding the reason why there are such diversified results in fracture of the patella. There are many different theories advanced regarding it; but the remarks of Dr. Jones, I think, bring out that point to some degree. It was my fortune the other day to see a case operated on by Dr. Fowler, and he said he believed that the reason why there were so many bad results in the treatment of fracture of the patella was due to the fact that there are intervening tissues between the extremities of the bone. And he was able to demonstrate in that case that the falling in of the pre-patella bursa was, at least in that case, the reason why a good result could not be obtained, because those tissues covered almost all of the fractured surface. The tissues were cut away, and he thinks the result will be good. I think that is the reason why the results are so diversified—that the fracture of the ligament does not explain it altogether. Of course, when those ligaments are ruptured, it removes the natural support of the patella; but when the intervening surfaces of the pre-patella bursa and the torn ligaments fall in between the fragments of bone, it is impossible for it to heal.

Dr. BUCKMASTER.—I have just examined this specimen. It looks as though it was somewhat shrunken by the alcohol, but I can imagine good bony union taking place in that patella.

Dr. WIGHT.—I did not intend to make an exhaustive consideration of this subject at all; but there is one point of testimony I wish to add. One of the reasons why we get non-union and fibrous union is not stated. Some post-mortem examinations, and other opportunities which I have had for observation, lead me to suppose that it is the fibrous clot on the end of the bone that is largely involved in the repair.

RHAMNUS AS AN ALTERATIVE.

BY ALEX. HUTCHINS, M.D.

[Read before the Medical Society of the County of Kings, October 18, 1887.]

The justification of a note on rhamnus rests on three facts.

1st. That the rhamnus frangula was a long-used continental remedy, which ultimately fell into comparative desuetude.

2d. That the rhamnus purshiana, through most extensive advertising, has attained a very extensive use and wide notoriety, and has found a very positive abiding place in the confidence of many medical men, at home and abroad.

3d. It has been openly questioned whether the later and advertised rhamnus purshiana is a simple extract or a compound, and whether, simple or compound, it possesses any advantages over the rhamnus frangula. Granting that they stand nearly on a level, one should be eliminated, to simplify the materia medica, and preference should be given to the one more easily obtained, more constant in supply and the cheaper.

Point is given to the consideration of these facts because, in the estimation of many practitioners, the rhamnus is a drug, for which, in wideness of application and persistency of results, there is no known substitute.

In a late *Ephemeris* occurs a note on the rhamnus, many of whose statements will command the assent of all who have had any prolonged experience with the drug. To the settlement of the comparative utility of the frangula and the purshiana, Dr. Squibb offers a crucial opportunity. No one can fairly call in question the conscientiousness and skill of this chemist, and when Dr. Squibb offers two fluid extracts, each of the two simples, if there be a desire to contribute to the settlement of the question, the varying quantity will be in the observer and not in the drug.

Apart from this, however, observation has shown that the rhamnus has a wide application in the relief and cure of simple chronic constipation. The details of its use have never been fairly and fully stated, but the general fact is well known.

It seems to be pretty well agreed, and it certainly is true, that the rhamnus is not suited to cases of constipation due to organic changes or to acute disorder. It has no place as a purgative. Its action is not prompt, and any dose designed to effect rapid action would be so large as to produce severe intestinal pain. It needs to be given in moderate

doses, often repeated, continued for a lengthened period till the habit of regular movements is established, then diminished in quantity and frequency and continued in diminished doses at regular intervals, for such periods as observation may deem sufficient. Its continued use does not produce reaction. It is an unquestionable alterative, in that it is a stimulant to normal intestinal secretion, and furnishes conditions for the free digestion of food, which is the ultimate condition of regular evacuations. Except within the limits above stated, the cases for its exhibition do not require careful selection. It is capable of producing one set of results in a definite way, and while there is no one drug so suitable and trustworthy in the muscular and secretory intestinal torpor producing the constipation of advanced life, it is equally manageable in the functional constipation of very young infants and of children.

I am not sure how fully agreed observers are as to the modes of its ingestion, which seem to the writer of not only considerable, but necessary importance. These are :

1st. The taste is sufficiently unpleasant and the digestion of the drug sufficiently liable to promote intestinal pain to demand a combination with glycerine and carminatives, and experience shows that these need to be fairly in excess ; and

2d. Its digestion is most effectively gained and its results most accurately secured when given with food at the regular meals. In the writer's opinion these are essential points in practice.

It is, however, not the object of this note to rehearse or enforce the claims of rhamnus as an efficient drug in overcoming the habit of chronic functional constipation. The literature of the drug ends with this limit of its therapeutics.

But the writer has come to regard its invariable efficiency in all sorts of functional dyspepsia as without a substitute in any known article of the materia medica. This form of statement is capable of being greatly misunderstood, for all general statements in medicine are open to grievous exceptions. Clearly it would be as absurd to say that rhamnus was a specific in dyspepsia, as it would be contrary to experience to affirm the same of pepsin, bismuth, or the mineral acids. And those who have dealt most patiently with the management of dyspeptic conditions estimate most clearly the *palliative* rather than the *curative* virtue of drugs. In the same line, no teacher would be likely to affirm the entity of dyspepsia as a disease, as no practitioner would be hopeless of curing a case of dyspepsia if he could have absolute and intelligent control of the entire details of all the influences, material and otherwise, that would affect the processes of digestion in any one particular case. That is to say, as physiology teaches that digestion begins with mastication and ends with defecation, so a perfect digestion involves the integrity of structure

and completeness of function, along the whole track of the canal, with the contributing organs, from the buccal membrane to the sphincter ani. And it is equally true, that in chronic functional dyspepsia, the functional disturbance is not limited, though it may be most prominent, to any one portion of the tract, but there is of necessity a variation from the normal condition along the whole line. And the accuracy of this statement is not affected by the varying and opposite conditions that prevail. No matter what may be the prominent symptom, constipation, diarrhœa, flatulence or pain, there is a general disturbance of the correlation of function, and the excess or diminution in one part involves diminution or excess in another. The equilibrium restored, normal digestion occurs, and a cure is effected.

I am aware that this is class-room teaching and not needful to a scientific hall, except as it enunciates a principle, which is the basis for skillful therapeutics, and, if it is fairly grasped, discriminates between palliative and curative intention in undertaking the treatment of chronic dyspepsia.

And, certainly, originality cannot be claimed for this statement of principle, for until the days when skepticism as to the efficiency of drugs began to take possession of medical men, the word "alterative" was prominent in therapeutic description—a confession of ignorance, but a statement of fact as well. "Alterative" did convey a meaning, but that meaning found expression rather in the observation of general results than in the production of any tangible symptoms, and the old observers, who were wanting in the instruments of precision, saw some things, between which and us the veil has been drawn. I imagine the practice has not changed so much as we are taught to believe, but the difference is that we act blindly where they acted in the light of their own intelligence, and though we use the same medicines they did, they classified them differently, and it is an act of heroism, amounting almost to fool-hardiness, to stand in a scientific presence and assert the real presence of an "alterative." The days of calomel are not among the dead past. Do you not dust a little calomel on the bluish, passively-congested conjunctiva to alter its functional torpor? Do you not apply calomel to an indolent ulcer to *alter* its nutrition? These you *see*. Have you not a vague experience that teaches you to apply calomel to a functionally perverted intestinal tract which you cannot *see*? In a blind way you commit yourself to the unknown, and when you emerge into the sunlight, it is, as it were, from a sleep. Not so your fathers. They carried a torch along the tortuous way, and "alterative" was graven where the hand grasped the phosphor. Was not the first lesson taught you in your Freshman year in college, "when in doubt, play trumps." Now that the world has grown older, and you are bald or gray, do not the scientists,

Pole and Cavendish, tell you to lead from your strongest suit and from five trumps always? It's, after all, only a difference in nomenclature. It's the same old calomel.

Opium, that soothes an excessive peristalsis and thus permits the jejunum to secrete its natural juices, is not thereby an "alterative." A dose of calomel that will empty an engorged liver is not thereby an "alterative." But there is rarely a case of chronic functional dyspepsia that, sometime or other in its career, does not undergo a course of slow and moderate and continued calomel treatment, just precisely, and with the same ultimate intent, that Dr. Benj. Rush administered it to his associate signers of the Declaration of Independence one hundred years ago, making mercury mines of colonial graveyards. Only, Dr. Rush wrote of "alteratives," and our modern professors of practice and therapeutics, in the present phase of learning, would hesitate to mention the name.

There is a difference between the treatment of symptoms and the symptomatic treatment. Our globulous friends may hold the monopoly of the latter, but the search for removal of causes that give rise to symptoms is the very essence of scientific medicine. In the effort for precise medication, therapeutics lost a grip when "alteratives" were dropped from the classification.

Notwithstanding the fact that the rhamnus has one single reputation as a medicament for constipation, any fair study of its mode of action will fail to classify it easily with the recognized purgatives and aperients. It can be made to purge, and so can arsenic. Its uncertainty of action, irritating effects, and occasional violence, make it useless as a purgative. The same conditions hold true of it as an aperient. There is no evidence of its action on any definite portion of the alimentary tract. The system does not acquire a tolerance. All these effects can be obtained when combined with other drugs; but combination only confuses, and does not explain the *modus operandi* of rhamnus.

In its use two things are clear: 1st, that, digested with food, it, at the same time, sooner or later, produces catharsis: if, then, the size of the dose, the frequency, one or both, be reduced, the effect can be maintained. The reduction of dose and frequency continued, a point is ultimately reached when a normal secretion is established, and beyond this rhamnus is an irritant; 2d, and a corollary to this, in health rhamnus is always an irritant.

The rhamnus, therefore, within its own scope of action, regulates perverted functional secretion. If words have any meaning, rhamnus is an alterative.

It was at this point that I began its use as an adjuvant in the treatment of chronic functional dyspepsia. It serves a purpose continuously,

where mercury can have but occasional use. Its very efficiency as an alterative not only permits it to be used continuously, but demands that it should be so used. This is an alterative *sine qua non*. When it is used, it shall be used all the time. The dosage as to size and frequency is governed by the demand.

It is no bar to accepting the argument that chronic dyspeptics are not always chronic constipates. The opposite is often true. A chronic dyspeptic may have existed who was addicted to regular movements of the bowels. He must be a *rara avis*. Irregularity is the rule, and it is the business of an alterative to produce regularity.

This paper must stop here, for the next step would lift it to the plane of discussing the entire treatment of chronic functional dyspepsia—moral, hygienic, dietetic, and the therapeusis of drugs—in the midst of all which rhamnus could play but one role.

Except the patient be rich enough to afford continuous visitation and pliant enough to submit to much mortification of the flesh, to say nothing of the world and the devil, a compact specimen of chronic dyspepsia is the worst kind of projectile dynamite to explode among the daisies that bedeck the busy doctor's path; and if he happen to pin his faith on rhamnus, he must not push it to illogical conclusions; for if his patient should happen, for instance, to have come to the knowledge of his stomach through the wearing experience of nervous strain and watchful, anxious, carping care, all the purshiana from the Sierras to the Golden Gate, and all the frangula from the gunpowder districts of Fatherland, would be inefficacious as an alterative, unless, perchance, with brain rested and pulse brightened by an Atlantic voyage or transcontinental trip, he shall himself pluck and peel and dry the small quill bark with his own right hand.

Just one word more of plain matter of fact and practice. For many years I have not varied my formula of use. A mixture of equal parts of rhamnus, glycerine, syrup of ginger, and peppermint water represents $\times 4$ to each 3j. This is capable of being adapted in size and frequency, easily, to every age, sex, color, and condition of life. In general, 3j after each meal until more effect is produced than required; then check off the noonday meal, later the morning meal, then continue with such diminished doses as will insure the desired result, and continue with the minimum dose so long as may be useful.

DISCUSSION.

Dr. T. M. ROCHESTER.—I have been very much interested in Dr. Hutchins' able and entertaining paper, particularly so in his new and ingenious definition of an alterative. As regards the drug itself, however, my experience has been different from the writer's, as I cannot

recall one in which I have been so thoroughly disappointed. Perhaps too much was expected of it, as an efficient laxative in habitual constipation has been a long-felt want by the profession. Especially has this disappointment been met with in the use of the *rhamnus purshiana*, or *cascara sagrada*, as it is usually called.

I have employed it in a large number of cases, in many different ways, and I believe in all the forms that are on the market.

I have even introduced suppositories of it into the rectum. My failures with it have been signal and wide-spread, the successes rare and exceptional. Another thing I have noticed is the uncertain action of the drug on the same person at different times. Especially has this been so, when the preparation has been procured at different druggists.

The possible reason for this might be interesting for you to know, viz., that it has been found that a large number of the samples offered for sale are adulterated or intensified, whichever you choose to call it, by the addition of cathartics.

In my hands the *rhamnus frangula*, or buckthorn, has proved decidedly the more satisfactory; and this was to be expected, from the fact that the supply is regular and constant, as I am informed that all of the bark is gathered during the months of July and August, when the twigs are gathered for the purpose of making charcoal for sporting powder. So, as it will be seen, this would most naturally be done at the time when the bark could be most readily separated, namely, at the time when the sap was running. Even the *frangula* has been disappointing as a laxative in my hands, and has been mainly used for aperient or cathartic purposes.

THE LIBRARY OF THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

BY JOSEPH H. HUNT, M.D.

The Report of the Librarian of the Medical Society of the County of Kings, read before the Society, January 17th, 1888.

I have the honor to report that since our last annual meeting the library has been removed from its old quarters in Everett Hall to our own building, 356 Bridge Street, where the library has been arranged and classified in the two large rooms on the second floor. The front room being devoted to general medical literature, and the current numbers of the medical journals; while bound volumes of journals and transactions are shelved in the rear room.

The books in the front room have been divided into ten classes :

1. General Medicine ; including philosophy, theories, dictionaries, collected works, and medical history and biography.
2. Anatomy ; including histology.
3. Physiology.
4. Hygiene.
5. Public Health.
6. Materia Medica and Therapeutics ; including pharmacy and toxicology.
7. Practice of Medicine, Pathology, Diagnosis, Chemistry.
8. Surgery ; including dentistry, ophthalmology and dermatology.
9. Diseases of women and children, and obstetrics.
10. Comparative Medicine, Veterinary medicine.

Three catalogues have been made by Miss Provost. First the accession book, which is the official record of each volume added to the library and gives the date and number of accession, class, book and volume numbers, author, title, place and publisher, date of printing, size and number of pages, binding, source (with name of giver), price paid, and any other record desirable.

Second, the catalogue arranged alphabetically according to authors.

And third, the subject catalogue arranged according to the classification before described.

The two last mentioned catalogues are made on cards, one card being devoted to each title or subject, some books requiring several cards ; one for the author and one for each subject treated in the book. These cards have been arranged in a cabinet of drawers where they are accessible and can be readily consulted by anyone who has occasion to use the library.

The subject catalogue is still imperfect, but the time since we came into our new quarters has been so short, and the work of the directory for nurses takes up so much of her time that the wonder to me is that Miss Provost who has done all this work, has accomplished so much.

In fact, I very much doubt if, with the limited help at our command, a *perfect* index of the library will ever be *completed*, but every day adds something, and we have arrived at the stage when readers can see what is being done, and each book has its representation card in the catalogue of authors and at least one card in the subject catalogue.

Our library now contains 2,446 volumes, 250 of which were added during the past year, which when we consider that no special effort has been made beyond expending the three hundred dollars appropriated by the society at the last annual meeting, more than half of which has gone for subscriptions to current medical journals (not yet bound and not included in the count of volumes), and library fittings, encourages us to believe that if we set about it in earnest, one thousand or more volumes

can be added to the library during the coming year, besides keeping on file in our reading-room a large proportion of the medical periodicals of the world.

We have during the past year regularly received and kept on file in our reading-room over fifty of the more prominent medical journals, representing the latest medical thought and intelligence from every quarter of the globe, and during the coming year I have no doubt but that with the aid of the exchanges of our new Journal the number will be much increased.

The list of journals on file in the reading room is as follows :

Weeklies.—Boston Medical and Surgical Journal, British Medical Journal, Centralblatt für Chirurgie, Centralblatt für Gynecologie, Cincinnati Lancet and Clinic, Journal of the American Medical Association, Journal D'Hygiene, Lancet (London), Le Progres Medical, Medical and Surgical Reporter, Medical News, Medical Record, New York Medical Journal, Science.

Bi-Weeklies.—Philadelphia Medical Times, La Voz de Hipocrates (Mexico), Japanese Medical Journal (Tokio).

Monthlies.—American Journal of Obstetrics, American Lancet, Annals of Hygiene, Annals of Surgery, Archives of Pædiatrics, Archives of Gynæcology, Obstetrics and Pædiatrics, Archives Roumaines de Medecine et de Chirurgie, Canada Medical and Surgical Journal, Chicago Medical Journal and Examiner, Cronica Medico-Quirurgica de la Habana, Dublin Journal of Medical Sciences, Edinburgh Medical Journal, Index Medicus, Journal of Materia Medica, London Medical Record, Medical Press of Western New York, Medical Age, Nashville Medical Journal, New Yorker Medizinische Presse, Nouvelles Archives D'Obstetrique et de Gynecologie, Physician and Surgeon, Polyclinic, Practitioner (London), Revue de Chirurgie, Sanitarian, Schmidt's Jahrbucher, Therapeutic Gazette.

Quarterlies.—Alienist and Neurologist, American Journal of Medical Sciences, American Journal of Insanity, British Gynaecological Journal.

Semi-Annual.—Braithwaite's Retrospect.

Ephemerial.—The Ephemeris.

I believe that a large medical library is as possible in Brooklyn as in Boston or New York, and that the profession which has during the past year given us a building to contain it will see that the good work goes on.

Our reading room should be a veritable medical exchange, where the latest medical intelligence can be spread out daily like the reports or bulletins in our commercial exchanges. Where the members of the profession can drop in at any time and find the information he is seeking, whether it be from the fresh journal, from the digested treatise, from the

files of old periodicals, from the directory for nurses, or from his neighbor who may be found in the room on the same errand. As Holmes aptly puts it: a place "where the whole atmosphere should be as full of professional knowledge as the apothecaries' shop is of the odor of his medicaments."

Those of us who have been in the habit of occasionally dropping in at our new building have observed the increasing interest that is being taken in our society, in the library, and in the professional "*esprit du corps*." The club rooms, if I may so designate them, are serving as a "*commune vinculum*," the common bond of a large, enduring, ennobling, unselfish interest. He from whom I have already quoted says: "what glorifies a town like a cathedral? what dignifies a province like a university? what illuminates a country like its scholarship, and what is the nest that hatches scholars but a library?"

Our library should be *first* one for reference, to which members could go, feeling that they could find works not contained in their office libraries; collecting and preserving complete files of the various periodicals, transactions and proceedings of medical societies, reports of hospitals, asylums, and other medical institutions. Encyclopædias, dictionaries, collected works of the fathers in medicine, etc., much of which would not be found, or even be desirable in our private collections.

It is true that old periodicals soon lose their freshness by having what is most valuable of their contents drained off into the standard works; but no extended record of facts grows too old to be useful. The genial autocrat of Boston says: "There is a dead medical literature and a live one. The dead is not all ancient, the live is not all modern. There is none modern or ancient which if it has no living value for the student, will not teach us something at the autopsy." So give us when the opportunity offers the works of the ancients. Our library should contain the standard works of the day, but as they are to be found in our private collections, though very desirable they are of secondary importance. These works will be added to our library by the natural process of accretion, for you know we were early taught that to him who hath shall be given. There are numerous private libraries in the city whose owners would gladly bequeath to us when they have finished using them if we only show ourselves to be the proper conservators of such treasures. I believe that at one time the librarian of one of the medical libraries of New York had *carte blanche* from a member of the profession to purchase for the library everything new in medical literature as it came out and send the bill to him. Your librarian stands ready to execute any such commissions.

Everything relating to or bearing upon the history of our profession should be preserved, even the literature of the various pathics and isms

which have from time to time sprung up and disappeared to make room for more.

I would take special care to collect and preserve *everything* possible in that large and valuable class known as medical pamphlets ; for in them we find recorded some of the most valuable and practical nuggets of medical wisdom ; and it is the class of medical literature soonest lost and hardest to find in our private libraries

In short I would preserve everything, however ephemeral or valueless it may seem to be at the present time or to the individual, for who of us knows what time may render valuable, or what may be of present value to his neighbor. Most of us remember how we afterwards searched for that pamphlet or circular which when received was deemed valueless and relegated to the waste basket.

Dr. Billings says : " the record of the reseaches, experiences and speculations relating to medical science during the past 400 years is contained in between 200,000 and 300,000 volumes and pamphlets, and while the immense majority of these have little or nothing of what we call *practical value*, yet there is no one of them which would not be called for by some inquirer if he knew of its existence.

The 250 volumes added to the library during the past year have been derived from the following sources :

By purchase.....	74
Volumes of periodicals bound.....	52
Deposited by Anat. and Surg Society.....	18
Donated by Dr. L. S. Pilcher.....	17
" " J. S. Prout.....	17
" " H. F. Williams ...	6
" " Geo. R. Fowler.....	9
" " J. H. Hunt	7
" " Chas. Jewett ..	5
" " L. D. Mason.....	5
" " J. D. Sullivan.....	2
" " E. R. Squibb.....	2
" " Jerome Walker ..	2
" " Surg. Genl's, Office.....	2
" " Bureau of Education.....	2
" " E. N. Chapman.....	1
" " F. B. O'Connor.....	1
" " E. P. Thwing.....	1
" " Wm. Browning.....	1
" Brooklyn Path. Society.....	1
Unaccounted for.....	25

Total 250

There are on file in the back room bound sets of the following medical journals and transactions :

- American Journal of Insanity, 1885-1887.
- American Journal of Medical Sciences, 1827-1887.
- American Medical Times, 1860-1864.
- American Medical Recorder, 1818-1828.
- American Medical and Philosophical Register, 1811-1814.
- American Journal of Obstetrics, 1869-1887.
- Annals of Anatomy and Surgery, 1878-1883.
- Annalen fur de gesammte Heilkunde, Hanover, 1836-1849.
- Archives of Medicine, 1879-1884.
- Braithwaite's Retrospect. (Complete.)
- Braithwaite's Epitome, Vols. 1 and 2.
- British Medical Journal, 1878-1887.
- British and Foreign Medical Review.
- British and Foreign Medico-Chirurgical Review, 1848-1862.
- Boston Medical and Surgical Journal, 1829-1887.
- Buffalo Medical Journal, 1851-1854.
- Canada Medical Journal, 1885-1887.
- Country Practitioner, 1879-1880.
- Dublin Journal of Medical Science, 1871-1887.
- Eclectic Repertory and Analytical Review, 1812-1817.
- Edinburgh Medical Journal, 1885-1887.
- Index Medicus, 1879-1887.
- Half-Yearly Compendium of Medical Science, 1871-1887.
- Journal of Foreign Science and Literature.
- Journal of Pharmacy, 1826-1856.
- Journal of Nervous and Mental Diseases, 1885-1887.
- Lancet. (London.) 1824-1887.
- Medical News, 1883-1887.
- Medical Repository, 1806.
- Medical and Agricultural Register. 1806.
- Medical and Surgical Reporter, 1858-1887.
- Medical Record, 1866-1887.
- Medico-Chirurgical Review and Journal, 1823-6.
- Monthly Journal of Medicine, 1823.
- New York Journal of Medicine and Surgery, 1829-1841.
- New York Medical Journal, 1843-1887.
- New Remedies, 1874-1886.
- Obstetrical Journal of Great Britain and Ireland, 1873-1880.
- Peninsular Journal of Medicine, 1853-1855.
- Philadelphia Medical Times, 1870-1887.
- Practitioner, (London.) 1868-1887.

Ranking's Abstract of Medical Sciences, 1846-1873.

Therapeutic Gazette, 1886-1887.

Water Cure Journal, 1850.

The three hundred dollars appropriated at the last annual meeting has been expended as follows :

Purchase of books.....	\$113 70
Subscriptions to medical journals.	129 05
Library fittings.....	21 81
Binding.....	21 40
Cash in possession of Librarian.....	14 04
	<hr/>
	\$300 00

Among the books purchased are :

Ziemssen's Cyclopaedia of Medicine, 18 Vols.

International Cyclopaedia of Surgery, 6 Vols.

16 bound Vols. of Dublin Journal of Medical Sciences.

6 bound Vols. of Archives of Medicine.

14 bound Vols. of Transactions of the Clinical Society of London.

The following journals have been contributed by the publishers :

British Medical Journal, Journal D'Hygiene, Le Progres Medical, Philadelphia Medical Times, La Voz de Hipocrates (Mexico), Japanese Medical Journal (Tokio), Archives Roumaines de Medicine et de Chirurgie, Cronica Medico-Quirurgica de la Habana, Edinburgh Medical Journal, Journal of Materia Medica, Medical Age, Nashville Medical Journal, Polyclinic, Revue de Chirurgia, American Journal of Insanity, The Ephemeris.

Dr. L. S. Pilcher has kindly kept us supplied with the files of Centralblatt fur Chirurgie, Centralblatt fur Gynecologie, Journal of the American Medical Association, Nouvelles Archives D'Obstetrique et de Gynecologie.

From Seabury & Johnson we have also received a large number of Medical Journals and Pamphlets.

There are now awaiting the binder nearly one hundred volumes of periodicals accumulated during the past year and not enumerated in our catalogue.

I would recommend :

First.—That our library be made free to any one interested in the study of medicine ; under such restrictions as may be prescribed by the Council.

Second.—That the society recommend to the trustees that they appropriate sufficient money from the treasury of the society to bind and preserve our present files of unbound volumes, and to continue the subscriptions of such desirable medical journals as shall not be obtained through the medium of exchanges of the BROOKLYN MEDICAL JOURNAL.

Third.—That a large committee be appointed to wait upon the members of the Society and solicit subscriptions for the purchase of books. That in connection with the Librarian this committee be empowered to select and purchase books to the extent of the funds they may secure. That this committee be named by the Council.

Fourth.—That a registry book be kept in the library in which all visitors be required to register their names each time they visit the library.

NOTES OF SIXTEEN CASES OF POISONING BY THE CASTOR-OIL BEAN.

BY BENJ. EDSON, M.D., BROOKLYN.

The *ricinus communis*, or castor-oil plant, is sometimes grown in house-yards and gardens on account of its striking appearance, and as somewhat of a rarity. Few fully realize that the seeds or beans are the source of danger, or likely to do any considerable harm. Ordinarily, if any thought is given to the subject, it is doubtless presumed that the uninviting taste of the bean precludes the probability that any one is likely to incur risk by eating of it. Observation, however, shows that it is hardly possible to foretell what strange and unlikely thing children may not do.

In October, 1887, fifteen children under six years of age, and one female nurse twenty years old, all inmates of the Home for Destitute Children in this city, indulged in a repast of raw beans taken from a castor-oil plant growing in the yard of the institution. The effect upon them all was to cause severe vomiting and prostration. The vomiting was persistent and seemed but little amenable to treatment. Various measures were tried to afford relief, but none was satisfactory. The nausea and retching recurred at short intervals in many of the cases, for at least forty-eight hours after the seeds were eaten, varying in duration and severity with the number eaten, the amount of food contained in the stomach at the time, and the susceptibility of the individual children.

The number of beans eaten could not be well ascertained, but it is believed that no child ate more than three or four.

The nurse, who even yet maintains that she ate but a single one, was so affected that for over sixty hours she could not assume the upright position without the recurrence of the nausea and vomiting. She was so prostrated that she was under treatment in the hospital of the institution for ten days before she was able to resume her work. Extreme prostration was a feature of all these cases.

The remarkable feature in *all* these cases was, that *in not a single instance was there any catharsis*.

This is not in accordance with what we have been led to expect.

Dunglison (Med. Dictionary, Revised Ed., p. 846,) says: "One or two seeds—*Semina Catapulice majoris* seu *Ricini Vulgaris*—will act as a cathartic."

Pareira (Therapeutics, Am. Ed., p. 440,) says: "A single bean has caused violent and long-continued vomiting and purging; and a girl, eighteen years of age, died of gastro-enteritis after eating about twenty seeds."

Bartholow (Materia Medica and Therapeutics, Fifth Ed., p. 632,) says: "The seeds appear to contain a drastic constituent, which is more powerfully purgative than the oil."

It may naturally be asked whether the plant may not have been some other than the *ricinus communis*? Concerning this there is no room for doubt, as I saw the plant myself, and have still in my possession some seeds from it.

I am not prepared to deny, in general, the cathartic action of castor-oil beans when eaten; but certain it is that there was no such action in these cases.

I can offer no suggestion respecting treatment, further than the indefinite one, to treat "on general principles."



THE HISTOLOGY AND PATHOLOGY OF SKENE'S URETHRAL GLANDS.

BY JOSHUA M. VAN COTT, JR., M.D.,

Lecturer on Histology and Pathological Anatomy, and Assistant Pathologist, Long Island College Hospital.

Read before the Medical Microscopical Society of Brooklyn, Sept., 1887.

The female urethra averages one and one-quarter inches in length, and a quarter of an inch in diameter.

Of a somewhat sigmoid shape, it is situated just beneath the symphysis pubis and above the anterior-superior vaginal wall lying between these two structures.

In its ultimate structure it is fibro-muscular, being composed for the most part of involuntary muscles, interwoven loosely with white fibrous and yellow elastic tissue, and supporting between its meshes numerous vessels and nerves. Large irregular venous channels are here a prominent feature.

The urethral canal is bounded by a true mucosa, which is firmly adherent to the tissue composing the main body of the urethra. There is no submucosa. The mucosa is lined with an epithelium, which in the anterior two-thirds of its length is of a squamous variety, the remaining portion being transitional.

Numerous mucous crypts are found beneath the mucosa throughout its course, their ducts opening upon its surface. They are lined with a very short columnar epithelium. These are "Littre's Glands." At the urethro-vesical orifice, also the meatus urethræ, these crypts are large and more important than elsewhere in the canal. Normally the surface of the urethral canal is bathed with a somewhat viscid mucus, the product of Littre's glands.

Unless the urethra be distended, the mucosa is thrown into longitudinal folds, the most prominent one being in the median line posteriorly. These are the principal features in the histology of the female urethra.

Aside from the general histology of the urethra, there are two of the mucous crypts which, from their unusual size, greater development and conspicuous location, merit a somewhat detailed description, more particularly as they are the seat of painful affections, often misunderstood, often difficult to cure, and frequently showing a tendency to chronicity.

To Dr. A. J. C. Skene, of Brooklyn, belongs the credit of having first pointed out these glands, and the nature of the changes which are liable to occur in them. We quote the following graphic description in Dr. Skene's own words. He says :

"Upon each side near the floor of the female urethra there are two tubules large enough to admit a No. 1 probe, of the French scale.

"They extend from the meatus urinarius upwards, from three-eighths to three quarters of an inch.

"They are located beneath the mucous membrane, in the muscular walls of the urethra.

"The mouths of these tubules are found upon the free surface of the mucous membrane of the urethra, within the labia of the meatus urinarius. The location of the opening is subject to slight variation, according to the condition and location of the meatus. In some subjects, especially the young and very aged, and in those in whom the meatus is small and does not project above the plane of the vestibule, the orifices are found about an eighth of an inch within the outer border of the meatus. When the mucous membrane of the urethra is thickened and relaxed so as to become slightly prolapsed, or when the meatus is everted, conditions not uncommon amongst those who have borne children, the openings are exposed to view upon each side of the entrance to the urethra.

"The upper ends of the tubules terminate in a number of divisions,

which branch off into the muscular walls of the urethra. By injecting the tubules with mercury and then laying it open, the openings of the branches can be easily seen.

"I have called them glands, because they differ in size and structure from the simple follicles that are found in abundance in the mucous membrane." (Vide *Am. Jour. Obstet. and Dis. of Women and Children*, Vol. xiii., No. II., April, 1880.)

The histology of Skene's glands is comparatively simple, and throws much light upon their pathology.

They are racemose glands, lying under the mucosa and their ducts open on the surface of the mucosa. They are surrounded by irregular plexuses of dilated veins and a few arterioles. They possess a true mucosa and no submucosa, resembling in this respect the urethra itself.

The mucosa of the glands is covered by a compound epithelium, composed of three layers, which are described as follows: Directly over the mucosa is a layer of young roundish cells having large granular nuclei, which stain readily with any nuclear stain. These nuclei compose the major portion of the cells. Next above this is a layer of replacement cells of a somewhat spindle shape, with prominent nuclei. They are young cells of slightly more advanced age and growth than those of the first layer. Over all is a layer of fully developed columnar epithelium, in which the cell nuclei are fairly distinct, and disposed with beautiful regularity near the narrow attached extremity of the cells. At the mouth or duct of the gland, the columnar cells give place to a squamous epithelium, resembling that of the anterior portion of the urethral canal.

The structure of the epithelium lining the mucosa of these glands gives evidence of considerable functional activity; and indeed their physiological duty is to secrete a rather viscid mucus, holding in suspension mucous corpuscles or leucocytes. This secretion would seem to possess a three fold function. First, it acts as a lubricator; second, it protects the parts bathed by it from irritation; third, it helps to seal up the urethral orifice, preventing entrance of air into the bladder.

Based on their morphology and physiology, the pathology of Skene's glands is readily conceived.

Perversion of secretion may occur; it may be diminished or suppressed, giving rise to undue dryness, producing irritation and finally inflammation at the meatus; or it may be very markedly increased, and may assume an irritating character.

The gland itself may be the seat of acute or chronic inflammation, causing extreme and sometimes prolonged suffering.

Stenosis of the duct of the gland may result from an inflammation, and be followed by cystic degeneration. Lastly, these glands often

become the repositories of the specific virus of gonorrhœa, and may harbor the poison for an indefinite period, giving rise to most distressing and protracted suffering.

It will be readily seen that Dr. Skene's glands resemble in their pathological anatomy all parenchymatous tissues; and that from their location, they are peculiarly exposed to infectious material, which may be the cause of almost endless trouble.

The clinical facts fully bear out the above statements; and are most forcibly put in Dr. Skene's own words. He says:

"Clinical observation has already shown that they are subject to inflammation of various degrees of intensity.

There is a mild form of inflammation of these glands, in which the mouths of the ducts are enlarged, and sometimes surrounded by a very narrow areola of a bright red color; and by pressure upon the urethra from behind forward, they discharge a white serous fluid. This condition gives the patient very little trouble, and would readily pass unnoticed by the gynecologist unless especially looked for.

"The most important pathological condition observed in this location, up to the present time, is a purulent inflammation, which extends from the mucous membrane of the ducts to the surrounding tissues. The mouths of the ducts thus inflamed are usually seen externally, being brought into view by slight prolapsus and eversion of the mucous membrane, caused by swelling. The orifices of the ducts appear like very small ulcers of a yellowish-gray color.

The mucous membrane of the meatus urinarius, especially in the neighborhood of the ducts, is thickened by proliferation, and is deep red in color. The general appearance of the parts is quite like that of caruncle, or papilloma of the meatus. The lower third of the urethra is slightly thickened in some cases from swelling of the inflamed parts. There is exquisite tenderness to the touch, and in walking or sitting, the patient suffers great discomfort; but there is no great pain during urination, as a rule. In fact, the absence of painful urination is the chief point in the symptomatology which distinguishes this disease from urethritis and caruncle.

"Inflammation of these glands has heretofore been mistaken for caruncles, at least it has been my misfortune in the past to confound the two affections; and I cannot see how others could have made a differential diagnosis if guided by a current literature upon the subject.

"By the light of recent experience the distinction is easily made. In inflammation of the glands, their orifices can usually be distinctly seen; and by pressure upon the urethra the purulent secretion is seen escaping.

"There is redness and thickening or enlargement of the tissues which surround the mouths of the ducts.

"In caruncles, the glands are normal, and the diseased tissue is generally limited to the lower border of the meatus between the orifices of the glands.

"The effect of treatment also shows a marked distinction between the two affections. A simple caruncle, if thoroughly destroyed by caustics, or removed by scissors, rarely returns; while vascular growths around the mouths of the diseased glands will return after being removed by any means, and will continue to do so, until the inflammation of the glands is cured. This to me is a perfectly satisfactory explanation of the statement made by most of the authors who have written, namely, that caruncle is very liable to return.

"These glands may, I presume, become involved in any inflammation of the vulva, urethra or vagina; but from the history of the cases that have come under my observation, I have been led to believe that the disease observed was caused by gonorrhœa, and it persists in the glands long after all traces of the original disease had disappeared. Indeed, when this disease is once established there is no natural tendency to recovery.

"The clinical importance and characteristics of inflammation of these ducts may be best brought out by the history of cases.

"The first that I shall mention is the one which led me to discover this portion of urethral anatomy.

"The patient was a married lady, 30 years of age. She was well developed, and had always enjoyed good general health. With the exception of a mild form of dysmenorrhœa, she had had no disease of her sexual organs, until one year before she came under my observation. At that time she was abruptly attacked with a profuse leucorrhœa, and other symptoms of inflammation of the vulva and vagina, including painful urination. She placed herself at once under the care of her family physician, who treated her locally, until she came to me. Her leucorrhœa had by that time diminished, and the painful urination had passed away; but otherwise she had not improved. At my first examination I found traces of the former inflammation of the vulva and vagina.

"The meatus urinarius was everted, and surrounded by a number of papillary projections, of a deep red color, and altogether presenting an appearance resembling that which is known as vascular tumor, or caruncle of the meatus. The diagnosis then made was subacute vaginitis, perhaps of gonorrhœal origin, and inflamed papilloma of the meatus urinarius. The vaginitis was treated in the usual way, and soon it terminated in complete recovery; but the inflammation and tenderness of the meatus remained unchanged, and annoyed the patient exceedingly. She could not walk or sit without pain, and coitus had to be avoided entirely.

"I presumed at first that the disease of the meatus was kept up by the irritating discharge from the vagina, and I hoped that when the one was removed, the other would get well; but such was not the case. I then thoroughly cauterized the elevated and tender points about the meatus with nitrate of silver. This caused very great pain at the time and was followed by no improvement.

"Pure nitric acid was used in the same way, but with no better result, except to destroy the elevations of the mucous membrane around the orifice. The same areola of inflammation around the meatus continued, and the symptoms remained the same. For eight months I treated the disease with diligence and care; but at the end of that time she was very little better.

"Caustics and cauteries being unsatisfactory, I tried sedatives and alteratives, including iodoform, iodine, mercury, and bismuth. At times the inflammation subsided slightly, and the elevated points became smaller; but in a short time fresh proliferations sprang up again, and the muco-purulent secretion continued to bathe the parts.

"Towards the end of this long period of treatment, and while making a critical examination, I observed that on each side of the meatus there were two depressions filled with a yellowish gray matter, looking like minute ulcers, but upon probing them, with a view to determine their depth, I found that they admitted the probe over half an inch. After withdrawing the probe, I made pressure upon the urethra from above downwards, and succeeded in expressing a purulent fluid, which could be distinctly seen escaping from their orifices. Treatment was then directed to these canals; first, they were injected with tincture of iodine, and subsequently they were cauterized by passing a probe, coated with nitrate of silver, along their entire depth.

"Prompt improvement followed this application. The inflammation around the meatus gradually subsided, and the pain and tenderness passed away. In less than two months from the time that a correct diagnosis was made, and appropriate treatment employed, the patient recovered completely, after twenty-one months of sickness." (*Vide Ibid.*)

I give the doctor's own words, because they picture vividly the changes which may occur in the glands, and the painful nature of these affections; and certainly their clinical importance justifies a thorough knowledge of their normal structure and pathological alterations.

BROOKLYN VITAL STATISTICS OF 1887.

BY J. S. YOUNG, M.D.,

Secretary of the Department of Health.

During the twelve months, ending December 31, 1887, the deaths in the City of Brooklyn numbered 17,078, being 1,288 more than in the corresponding twelve months of 1886, and representing an annual death rate of 22.72 in every 1,000 of population. By classes, the deaths, the death rate and the percentage of deaths to the total deaths were as follows:

	Deaths.	Rate per 1,000.	Per cent. of total.
Zymotic	4,421	5.88	25.88
Constitutional	3,394	4.52	19.87
Local	7,489	9.96	43.86
Developmental	1,321	1.76	7.74
Accident and violence	453	.60	2.65

Of children under 5 years of age there were 7,577 deaths, at an annual death rate of 10.08, or 44.37 per cent. of total. There were 4,573 deaths under 1 year, 26.78 per cent. of total. The four chief causes of death were: Phthisis, 2,026; pneumonia, 1,418; cholera infantum, 966; diphtheria, 950—aggregate, 5,360, or 31.38 per cent. of total. The death rate of certain American and foreign cities for the same period was as follows: Brooklyn, 22.72; New York, 27.62; Boston, 24.32; Washington, 23.09; New Orleans, 24.80; Philadelphia, 22.42; London, 19.45; Paris, 23.48; Dublin, 29.35; Glasgow, 23.28. There were 5,291 deaths in houses containing 4 or more families (tenements). The birth returns numbered 12,750; the marriages, 5,700; the still-births, 1,299. There were 1,272 deaths in public institutions, and 278 colored people died. In respect to still-births, births, and marriages it is proper to state that they are never fully reported. The mortality reports are, however, full and complete. The estimated population of the city on Jan. 1, 1888, is not less than 774,870.

The number of deaths from diphtheria was 950, an increase of 170 for the corresponding period in 1886. The number of deaths from scarlet fever during the same period was 271, a decrease of 68; measles, 172, an increase of 68; whooping cough, 59, a decrease of 201; croup, 503, an increase of 100; cholera infantum, 966, an increase of 163; all diarrhoeal diseases, under 5 years of age, 1,418, an increase of 424; diarrhoeal diseases, all ages, 1,632, an increase of 481; typhoid fever, 143, an increase of 21; malarial fevers, all kinds, 257, an increase of 16. In certain other prominent causes the number of deaths were: Rheumatism, 60; cancer, all varieties, 336; marasmus, 569; consumption, 2,026; tubercular meningitis, 154; hydrocephalus, 76; meningitis (not tubercular), 531; apoplexy, 307; convulsions, chiefly occurring in children under 1 year of age, 432; sunstroke, 32; all diseases of the nervous system, 2,059; diseases of the heart and circulatory system, 949; bronchitis, 790; pneumonia, 1,418; all diseases of

the respiratory system, 2,497; Bright's disease of the kidneys, 404; puerperal diseases, 151; old age, 322; infantile asthenia and premature birth, 390; suicide, 61; homicide, 6; in public institutions, 1,272; in tenement-houses containing 4 or more families, 5,291. The number of inquest cases, exclusive of still-births, was 1,565.

In the first quarter of 1887 the deaths numbered 3,923; in the second quarter, 4,013; in the third quarter, 5,056; in the fourth quarter, 4,086. By sexes there were 8,730 males and 8,348 females. By nativity the following was the record: United States, males, 6,155; females, 5,826; foreign, males, 2,575; females, 2,522; natives of both sexes, 11,981; foreign of both sexes, 5,097. By age periods the deaths were as follows: Under 1 year of age, 4,573; from 1 to 5 years, 3,004; total deaths under 5 years, 7,577; from 5 to 10 years, 790; from 10 to 20 years, 737; from 20 to 40 years, 2,807; from 40 to 60 years, 2,577; from 60 to 80 years, 2,131; from 80 years and upward, 459. By social condition the following is the record; Married, 4,438; single, 10,537; widows, 1,386; widowers, 599; unknown or not stated, 118.

Of the deaths from suicide, 55 were males and 6 females. There were 32 married, 22 single, 5 widowers and 2 not stated or unknown. The native born were 20 in number and the foreign 41. The annexed table will show the average population (estimated) of the several wards, number of deaths in each of said wards, the number of deaths in the public institutions located in the several wards and the annual death rate of each ward:

<i>Wards.</i>	<i>Population.</i>	<i>No. of deaths.</i>	<i>Public institutions.</i>	<i>Annual death rate</i>
1.....	20,425	316	—	15.26
2.....	10,305	252	2	24.45
3.....	20,280	381	46	18.78
4.....	14,025	288	25	20.53
5.....	20,254	530	—	26.11
6.....	39,066	1,057	246	27.05
7.....	37,222	657	11	17.65
8.....	27,006	663	—	24.55
9.....	17,381	405	7	23.30
10.....	30,533	808	2	26.46
11.....	23,990	702	173	29.26
12.....	26,103	816	2	31.26
13.....	22,974	469	19	20.41
14.....	28,439	710	—	24.96
15.....	27,255	564	—	20.69
16.....	48,408	1,201	1	24.80
17.....	35,698	870	1	24.37
18.....	47,421	1,581	371	33.33
19.....	33,729	650	1	19.27
20.....	26,579	477	54	17.94
21.....	44,309	960	4	21.66
22.....	44,133	675	20	15.29
23.....	31,309	409	53	13.03
24.....	13,458	382	167	28.38
25.....	39,486	717	25	18.15
26.....	21,584	538	42	24.92
Totals.....	751,432	17,078	1,272	
Average death rate				22.72

Under "Public Institutions" are recorded all deaths occurring in other than private residences. As by far the major portion of deaths in public institutions occur among persons who are non-residents of the wards in which the institutions are located, the actual mortality in each ward can be more nearly approximated by deducting said deaths from the total in each ward. This has been done in the following table :

<i>Wards.</i>	<i>Total deaths.</i>	<i>Public institutions.</i>	<i>Actual mortality of wards.</i>	<i>Annual death rate</i>
1.....	316	—	316	15.26
2.....	252	2	250	24.26
3.....	381	46	335	16.52
4.....	288	25	263	18.75
5.....	530	—	530	26.11
6.....	1,057	246	811	20.76
7.....	657	11	646	17.35
8.....	663	—	663	24.55
9.....	405	7	398	22.90
10.....	808	2	806	26.39
11.....	702	173	529	22.05
12.....	816	2	814	31.18
13.....	469	19	450	19.59
14.....	710	—	710	24.96
15.....	564	—	564	20.69
16.....	1,201	1	1,200	24.78
17.....	870	1	869	24.34
18.....	1,581	371	1,210	25.54
19.....	650	1	649	19.24
20.....	477	54	423	15.91
21.....	960	4	956	21.58
22.....	675	20	655	14.84
23.....	409	53	356	11.35
24.....	382	167	215	15.98
25.....	717	25	692	17.52
26.....	538	42	496	22.98
Totals.....	17,078	1,272	15,806	

By the above table it will be seen that the highest death rate, 31.18, occurs in the 12th Ward, and the lowest, 11.35, in the 23d Ward.

The appended table will indicate the population in each of the wards of the city, estimated on Dec. 31, 1887 :

<i>Wards.</i>	<i>Population.</i>	<i>Wards.</i>	<i>Population.</i>
1.....	20,688	14.....	28,619
2.....	10,310	15.....	27,615
3.....	20,375	16.....	48,813
4.....	14,185	17.....	36,388
5.....	20,369	18.....	51,221
6.....	39,526	19.....	24,264
7.....	37,675	20.....	26,592
8.....	29,006	21.....	45,934
9.....	17,831	22.....	47,283
10.....	30,808	23.....	33,419
11.....	24,130	24.....	14,133
12.....	36,343	25.....	42,386
13.....	23,001	26.....	23,896

Total population (estimated) on Dec. 31, 1887, was 774,870, an increase of 29,762 since Dec. 31, 1886. The annual death rate for the first six months was 21.30. The annual death rate for the past six months was 24.14. Average annual death rate for the year, 22.72.

SIDE LIGHTS IN THE DENTAL PRACTICE.

BY J. ALLEN OSMUN, D.D.S.,
Newark, N. J.

Read before the Brooklyn Dental Society, Jan. 23, 1888.

MR. PRESIDENT AND GENTLEMEN :

"The Preacher" has said that there was "nothing new under the sun," and when trying to fix upon a suitable subject to present here to-night for your consideration, I looked around for something entirely original, I must confess that my appreciation of this old and trite saying became more pronounced.

It is eminently necessary that to achieve success in our avocation, that a variety of qualifications are called for, besides a strictly scientific knowledge, which is of course, the one great essential.

Starting from the broad premises that Dentists are born, and not made to order, (a position that has received some criticism, yet to the speaker's mind, a perfectly tenable one, which an experience of some fifteen years has only intensified,) that there must be a natural love and ability for the practice of dentistry, which no amount of college or private tuition can supply. Granting this to be true, we will enter into a little closer study of our subject.

There are gentlemen in our ranks who are scientific, and can tell you what to do for any case that presents itself, and yet never achieve success either in reputation or practice ; and on the other hand many who have no scientific knowledge or ability as an operator, achieve both. Why? I should say that the one lacked business sagacity and perhaps professional tact, while the other had them to a large degree. That this qualification is necessary to success is without question. As well might a seafaring man expect to make a successful voyage without chart or compass, as a professional man hope to achieve success without tact and business sagacity ; they are the necessary adjuncts.

It would not be in order, before such a gathering as this, to refer at length to such elemental matters as cleanliness in office, instruments, and of person, and yet it is worth while now and then to jog the memory on this important matter.

Among the first things to impress yourselves favorably upon your patrons, and add comfort and joy in your daily tasks, is order and system in your operating. How can one expect to operate successfully or neatly, and shall I add, expeditiously, without order and system? I sincerely believe that the many failures one sees, is the direct neglect of this most important factor. John Hunter, the celebrated surgeon, being asked by what

method he had contrived to succeed in all his various undertakings, answered, "my rule is deliberately to consider before I commence, whether the thing is practicable ; if it be not practicable I do not attempt it ; if it be practicable, I can accomplish it if I give sufficient pains to it, and having begun, I never stop until the thing is done. To this rule I owe all my success."

With this settled plan in one's mind, and working to it, one not only accomplishes the end to be desired in shorter time, but with less fatigue to himself and to his patient ; and not least, he impresses them that he knows what he is about. It is by neglect of the beginnings, that bad and careless methods in operating are inaugurated and fostered.

The strain of all work comes chiefly from lack of qualification, by training or nature, for the work in hand, "tear in place of wear." We are all familiar with this fact, that the physical and nervous strain becomes less the greater experience we have, and the more confidence we acquire from repeated successes. It is perhaps needless to urge a careful study of the principles involved in each case.

Probably nothing tires one so much as a hurried feeling, which is largely due to the fact that while one is operating (or trying to operate) the moments are flitting by, and one sees no material progress ; then it is that the mind tires the body, and often one tries to drive with whip and spur to recover lost ground but with indifferent results.

How necessary is it then, to have the plan of each given operation all worked out in one's own mind, so that each step shall only be the unfolding or continuation of the whole ; to see the end from the beginning. This will give you tranquility of mind and soul, and one can accomplish wonders, and in a creditable manner.

In handling patients, one finds a field for the exercise of the highest skill and tact. To diagnose a case accurately, to give a prognosis that subsequent events prove to have been founded upon scientific data is well, and will give the patient a high opinion of your professional skill ; but there is something else. To treat the various idiosyncrasies of your patients, calls for all the powers at one's command ; one must study human nature while working upon specific organs, and learn that the patients have warm sentiments, strong and decided passions, and vivid imaginations. The aim should be to fathom each one's mind, discover its peculiarities, and to harmonize in so far as one can, with its peculiar conditions, to be a keen observer of men and things and a student of human nature. This will give you a lever in the use of hope, expectation, faith, contentment with your methods, that will inure to the satisfaction of both patient and operator. Perfect frankness in explaining the reason why such and such devices are used, or such a course is being pursued either in treatment of diseased teeth, or capping exposed pulps, or any other operation, and a

distinct statement made of the results likely to ensue ; being forewarned is being forearmed, and I find that when patients realize the difficulties to be overcome and that certain means are to be used, they are more liable to render such assistance as they can, and should failure ensue, their knowledge of the obstacles to be overcome renders them capable of a keener appreciation of the results.

With children this will be found of the greatest benefit, making a pleasant visit and successful operation, of what might have been, to say the least, a wearisome task. Another point along this line will be pertinent to the subject. Davie Crocket, of well known fame, never said a truer thing than, "Be sure you are right, and then go ahead." This is or ought to be the aim of each operator. When you have diagnosed a case do not give your opinion until you are convinced you are right, and then stick to it, unless you have the most positive reasons for changing your mind ; if so, give enough of the reasons that induce you to change to the patient that they may know the whys ; to say that in your judgment that so and so ought to be done, and when the patient makes some objections, say, "I guess it might as well be different, etc.," is not a good plan to impress them with your dignity or learning. This brings us to speak of the dignity that should be observed in and out of the office ; the practice of some of having their offices a lounging place and smoking room for a lot of fellows whose time hangs heavily on their hands, is not commendable. The conversation of such persons is not apt to be of a very high order of intelligence, and besides the public has an idea that a professional man is, or ought to be set apart and accorded a high esteem ; and I believe that such companions destroy public faith or prevent its growth. The people take cognizance of the little things in your manner, appearance, conversation and habits, and you will be observed and criticised accordingly. The lewd story or jest about women, may like chickens, come home to roost ; you can never know who hears it, or when it will stop in its wanderings. In short, a professional man must preserve a proper degree of gravity and dignity upon all occasions ; frivolous conduct, vulgar jokes, and undue familiarity are unprofessional. This does not mean to condemn good nature, not at all, but the one can be appreciated, and helps,—the other detracts. If you have the ability to control your temper and to maintain a cool and philosophic composure under the thousand and one annoyances and provocations that arise in daily practice, you may thank your guiding star ; for a brusque manner is always to be deplored. The power of impressing those who come into your office, or those you casually meet with, of your ability and adaptability to your calling is of utmost importance ; to this end self-examinations are of benefit. The remembrance of names of children or parents, or of the last operation made, and the circumstances attending such, have great weight, and stamp such an operator with the idea that he has his profession at heart.

Showing an earnest, anxious, gentle interest and sympathy in all painful operations, will insure you loyal patients. Avoiding all deceptions, "a cunning trick helps but once and hinders ever after," says the old proverb, a reputation for just and honest treatment is invaluable. Every minute spent in studying, and every effort put forth in making operations less painful and more expeditious will be of the greatest profit. Patients are quick to discern and herald every effort put forth for their comfort; for at the best, it is with a real dread with most people, that they visit a dentist, and if one possesses the power, either natural or acquired, to make them feel that they are going to suffer the minimum amount of pain at your hands, it is of incalculable benefit, both for the patient and for the operator; for I am sure I only voice your own experience, when I say that the greatest drawback to successful operations in our specialty is the procrastination of patients, the putting off until the last moment, a visit that should have been made months and perhaps years before.

In order to obtain this immunity from painful operations one must be progressive. If at any time, new ideas or theories, or appliances come to the front, no matter whether we believe in them or not, it is our bounden duty to carefully investigate, and if there be only one kernel of truth to a bushel of chaff, we must utilize the one grain, and throw the other to the winds.

The dental profession is given to riding hobbies, as a profession. For instance, it was a short time ago when the correct practice was to cap all pulps, and what has come of all the wonderful successes that we heard so much about; and now the pendulum has swung to the other extreme, and it is said that an exposed pulp is better. As they say out West, about Indians, "the only good one is a dead one," and so in regard to exposed pulps, better dead and out of the mouth than in it; the same might be said of various other matters which will readily suggest themselves to your mind, and yet this leads us to say that the successful practitioner will not be a prejudiced one, and it is well not to be biased too quickly or strongly in favor of any new and untried operation or remedies. The idea that you are an experimenter is "sure death;" no one likes to be the first victim of an experiment. The adaptability to manage these things adroitly and successfully, and at the same time impress them that you are up to all the new things, and awake to all improvements, is the strength of a professional man.

It is well not to set your heart upon the continuance of the patronage of any one as your patient, for the firmest and most steadfast friend of today may be your enemy to morrow, and from no fault of yours. "Trifles light as air" will sometimes serve to sever families or patients from you. A whim, a caprice, a look, or a word, or some fancied neglect will serve to break likes that have been in the process of forming for years, and per-

haps will choose some ignorant and shallow fellow, who has nothing in this wide world to recommend him, except his abundance of cheek and lack of skillfulness ; and yet you must bear the reflection and the wrong without showing the slightest chagrin or feeling

We have those among us, who say the public have no business with one's private life ; as long as they do their professional work satisfactorily, that is all that can be expected. That may be all right in theory, but it don't work in actual practice. Every one should have respect for religion, he should have the highest regard to his own moral behavior ; people soon "size" a man up, and he fights a one-sided warfare, who has to overcome prejudices affecting his personal habits and his moral standing. We are sure that a more pernicious notion never entered into the mind of any professional gentleman, than that the public has no business with his social life ; once let a practitioner get the name of being immoral, addicted to intoxication, of associating with questionable characters, and he will soon have plenty of leisure time for reflection ; for often his very companions will hesitate before they will trust wife or children under his professional care, and the pure and upright will, of course, be chary of his reputation.

A progressive dentist is always a member of some society ; not that a dental society is a specific for all personal deficiencies, nor a panacea for all professional shortcomings ; and here a word to the younger members of such gatherings. Always feel and show the utmost respect for your seniors in practice ; not that you must endorse or accept their theories or practice, but there is no type of dentists, or in fact any persons so unworthy of respect as those who show contempt for their seniors ; you may have a little more skill in your fingers, and be a little more deft in certain directions, but they have the ripened judgment and sound discretion, and whether they have or not, they certainly merit our highest esteem and courtesy. The practice of dentistry isolates a man from his fellows ; busy from hour to hour, and from day to day, they may remain strangers to each other, unless brought in contact in such a society. Then the friction of mind against mind, broadens one's views, and makes one more liberal, not to overlook the opportunity it gives to study the different peculiarities of each other, learn what constitutes their strong points, and makes the success or non-success they have in life's work, and find out in the one case the points to be learned and copied, and in the other, what imperfections to avoid ; it also serves to form new combinations of ideas, and fresh streams of knowledge, for there is no one so humble in our calling, who has not some idea or suggestion that you are a stranger to, if you can only bring him out. Need I add that it is incumbent for every one to add his influence and aid in its support, by his presence, his ability, and his voice ; and if one desires to see his profession elevated to

take the front rank among the liberal and learned, he must elevate himself, and by so doing, he adds his mite to raise the standard.

One other point, and then I will bring my remarks to a close. I have noticed that the bulk of our profession are forgetful of the importance of saving something for the proverbial "rainy day," and I know of nothing so deplorable as to see a man who has been faithful to his calling come down to old age, and be without this world's goods, enough at least, to be comfortable, and not the least important factor, that it adds to one's usefulness and influence, as well as success; for, "to him that hath it shall be given." A word to the wise is sufficient, and it will be best, perhaps, to let this thought pass without further comment.

Every profession has its humorous as well as its pathetic side, its lights and shades, and ours is no exception to the rule. Dealing as we do, with organs full of life and vitality, with people full of dread at the operations, sometimes so constituted, that the smallest mote seen in the future, assumes gigantic proportions; having to soothe the fearful and nervous, prop up failing courage, deal with the weak and invalid ones, so as to obtain the best results, calls for an educated judgment, cool and dispassionate action, and in the various calls upon your time and vitality, you will find, and are doubtless aware, that being in full practice, your days and weeks, months and years, will flit by almost with magical swiftness; making appointments ahead all the time the days full of cases of more or less anxious care, makes it imperative for relaxation from time to time. That the dental profession is a tread-mill will, I think, be admitted by all; then by all means, have an outing that you may see the beauties of nature, hear the sounds of the outer world, etc.

Of course, in such a short paper as this, it has only been possible to touch here and there, for upon such a subject, any one of the suggestions would serve as a text for a paper of greater length than this; however the earnest desire of the speaker is, that your lives and your labors may be both a success, having more of the lights, and less of the shadows, as the days go by.

LOOSE CARTILAGES IN JOINTS.

BY JAMES F. FEELEY, M.D., BROOKLYN.

Read before the Brooklyn Surgical Society, December 15th, 1887.

Ambrose Paré removed and reported the first case I find mentioned, in 1558. Since that time surgeons have reported finding them in a number of the articulations of the human body, but chiefly in the

knee-joint. Barwell states that eighty-five per cent. are found in this articulation, next the hip, lower jaw, shoulder, ankle, wrist. They may be single or, as in a specimen in the museum of the New York Hospital, numbers may be found in more than one joint of the same individual. They may be formed by the breaking away of portions of interarticular cartilage, either by injury or disease; from hypertrophied fringes of the synovial membrane (Ranney's); rheumatic arthritis; normal cartilage, with or without bone, broken off by injury or exfoliated by slow necrosis. John Hunter states that a blood clot may be the starting point. Mr. Shaw reports one in which a needle was the nucleus. In three cases that have been under my own observation, injury would seem to have been the cause.

The first was a man about 40 years of age, a grave-digger by occupation. He jumped from a grave, and was seized with a pain in the left knee so severe that he fell and could not rise. His leg was partly flexed, and some of his fellow workmen pulled it straight. He was taken home, and remained in bed for ten days; on the eleventh day he was brought to my office in a wagon. There was some swelling about the left knee-joint, not very painful to the touch or gentle movement. While moving the joint to make out the character of the injury, the cartilage presented itself, at the inner side of the articulation. He would not consent to an operation of any kind.

No. II.—The young man this specimen was taken from was 22 years old, a printer by occupation, and noted in the shop where he worked as a great jumper and walker. Several times after jumping he was compelled to rest for a few days on account of pain in right knee. One day, while standing on right leg, he made a half turn of his body to reach some type that stood near. He was seized with a severe pain in right knee, and fell to the ground. He could not remember the position of leg; but it was pulled by his shopmates, who hurt him very much. He was taken home in a carriage, and was unable to walk for two weeks. He then resumed his work. A few days after, while examining his joint, he found the cartilage and came to me.

No. III.—A boy 15 years of age, running, fell and struck his knee against the cook-stove. I saw him at his home about twenty hours after the injury. He has not been able to stand since he fell; lies on a sofa just as he was brought in. He will not let any one touch him, as it gives him great pain. His right leg was flexed and supported with a pillow. He asked me not to touch his leg, as it would "kill him." I took hold of the leg to examine the joint, and in doing so straightened the knee. He cried out with fright and pain, but at once said he was "all right." I could find no injury to the bones of the articulation. As there was considerable swelling about the joint, I made no further

examination at that time, but directed him to handle his joint every day and see if he could find anything in it that moved. In about two weeks he came to my office, and could then, by tapping lightly on the outer side of the knee and over the top, drive out a cartilage and fix it on the inner side of the joint. His mother would not consent to an operation.

The symptoms of this disease are not very positive unless the cartilage can be brought near the surface of the articulation and examined by sight and touch, frequent attacks of synovitis coming on without apparent cause and getting well by resting a few days; sudden sharp pain, owing, as some say, to the wedging of the cartilage between the bones of the joint.

The treatment may be palliative or curative. The palliative consists in confining the cartilage in some part of the joint where it is tolerated without pain, and immobilizing the joint. The only cure is to cut out the cartilage by the direct or indirect method. The indirect method is by opening the articulation by a subcutaneous incision, and pushing or dragging the cartilage out of the joint into a bed prepared for it by breaking down the connective tissue just outside the sack, and fixing it there. After the wound in the sack has united, the cartilage is cut out of the connective tissue beneath the skin by direct incision. The direct method is to open the joint at once, the cartilage having previously been brought to the most accessible part of the joint and held there if possible. The wound in the capsule should be sufficiently free to enable the surgeon to remove the cartilage with as little handling of the joint as possible. In the case operated on by myself, I closed the wound in the capsule at once, using no drainage tube, drained the superficial wound by a few threads of gut, and closed it by continuous suture; dressed and immobilized the joint. Absolute rest in bed insisted on. Antisepsis was attended to; spray used during operation and dressing. Two weeks after operation all dressings were taken off and patient directed to get up and exercise a little. I saw no more of him for three months. He then called to tell me that he had been to work ever since I left him. He had no pain or swelling about the joint.

DISCUSSION.

Dr. WIGHT.—Some important points in reference to the etiology of more recent date might be mentioned. I do not intend that my remarks should be conclusive; but I have been fortunate enough to have made observations recently, in the very line and drift of their production, which leads me to believe that they are largely vegetations; that these bodies may not be particles broken off of the cartilage of the joint, but that they are vegetations. The ground of my belief in that

respect is practically this : I have been in the habit for a number of years of operating upon large compound ganglia of the wrist, front and back, and I have operated on quite a number of these cases where they have occupied a large part of the wrist and hand. I speak of that incidentally to show my opportunities of observation of these closed cavities, and I have found almost all of them filled with small so-called rice bodies. I have frequently found this same condition in the patella bursæ—large bands grown across. In a case I operated on recently, these vegetations had actually sprouted up like a little forest ; small bodies, larger than the rice bodies, and hard and firm and almost cartilaginous, something like bodies I have seen removed from the knee-joint. I mention that as being the proper source of these large bodies in the knee and other joints ; that they are really vegetations, partaking of cartilage sometimes, and often that cartilage conformed into bone. My experience in operating for loose body in the knee-joint is confined to simply one case. I have seen quite a number, but they have declined to be operated upon. I operated upon a young man a number of years ago, before the question of antiseptic surgery was fully understood and practiced. I simply made an incision into the joint and took out the body and closed up the joint, and told him to keep quiet ; but he did not do so, and went out to his business, and had no further trouble after that ; and that led me to the opinion that I have seen sometimes expressed, or heard expressed, that the knee-joint with these bodies in becomes very tolerant of irritation, and I do not know but it is so. I believe that when these bodies are found in the knee-joint it can be opened freely enough to take them out without any difficulty, and by washing out the joint with antiseptics and then sewing it up, it will heal in the natural way. I would not hesitate to open the knee-joint, so that I could put my finger in and search the joint for any fringes, and shear them off with scissors and then close it up. I would not have any fear of the result under proper antiseptic precautions.

Dr. FEELEY.—This specimen has dried out ; but if you will look at it carefully, it has a bony back, almost as though it were a fracture. You see the cartilage of the joint on one side, and unquestionably bone on the other. It does not look like a foreign growth, but a portion of the joint broken off. I found in the New York Hospital a case of rheumatic arthritis, in which the patient had a crop of these bodies in his shoulder and hip joints ; and another case of a young man who fell from a stepladder seven feet high, and in a few days afterwards, when the inflammation was over, they found the cartilage and removed it. These seemed to have a traumatic origin. Ranney is positive that these fringes have something to do with it. These cases which I have mentioned, and the one in which the needle was the nucleus of incrustation of cartilage, would seem to indicate a traumatic origin.

Dr. WIGHT.—I would not exclude traumatism at all; but I am firmly impressed with the opinion, at present, that many of them are formed and they may be broken off by some traumatic influence. But this one I spoke of was very hard and round, and I cut it in two, and it was hardly ossified at the centre.

Dr. FOWLER.—I can only recall one case, Mr. President, which had anything specially peculiar about it. In this case there were present all the evidences of a floating body in the joint, the usual symptoms of sudden pain and inability to walk, etc.; and in that case, although I could not demonstrate the presence of foreign bodies without opening the joint, when I opened it I found that there was a duplication of the synovial membrane which lies under the ligamentum patellæ, and I found two or three small pedicles which I simply snipped off with a pair of scissors, and the patient recovered. That was five years ago, and there has been no recurrence of the symptoms since.

Dr. PILCHER.—Did you use a drainage tube in the joint?

Dr. FOWLER.—I usually do when I open a joint. I am heartily in favor of using large drainage tubes. My experience has been that they furnish complete, free, and reliable drainage of the knee-joint, and with all the antiseptic precautions will insure the patient against the much dreaded sequelæ of opening the knee-joint.

Dr. FEELEY.—In cases where the floating body can be crowded into one portion of the joint and fixed there, while by a limited incision it is set free and removed, would you in such cases use a drainage tube?

Dr. FOWLER.—I have opened the knee-joint after crowding the floating body as closely as possible to the integument, by making an incision directly upon it, and then closing the wound and draining it by simply passing a few catgut drains. Where I open the joint more extensively for the purpose of searching for the body, and where the procedure involves a considerable opening of the joint, I think it is better to insure proper drainage.

Dr. WIGHT.—In that connection, I would say that I have often put a small soft rubber tube from side to side through the joint, and washed out the joint once or twice, or, not as the case might seem to require, I pass it directly through the joint; and if it seems desirable to remove it after two, three, or four days, I draw it out at one side and cut it off, and then draw the remainder out from the other side and let it heal up. I think that is better than two small tubes, one on each side; I think that it insures more complete drainage.

Dr. WUNDERLICH.—I believe that vegetations are frequently the cause of the formation of floating bodies, although I have not been able to find such was the fact in every case which has come under my observation.

Dr. ROCKWELL.—My impression in regard to this particular speci-

men is not that the chipped off bone was the cause of the foreign body, but that the foreign body was sessile and at the time of the traumatism was caught between the articulating surfaces, and was wrenched off and carried a part of the articular surface of the bone with it.

Dr. FOWLER.—Has there been any further examination of it since it was taken out?

Dr. FEELEY.—No.

Dr. PILCHER.—I think it must be from the articulating margin of the tibia. A wrench probably brought the femur against it in such a way as to partially break it off, and this sudden wrench must have set it free.

Dr. FEELEY.—At the time it was taken out it looked like a fringe cartilage growing out from it. Some might say it was one of Ranney's fringes of the synovial membrane on the cartilage. Of course, I do not look upon injury as the sole cause of this disease. I think it is well for surgeons to examine their cases well after the synovitis is over. In the case of the grave-digger who would not be operated upon, I found that, while he was laid up with an attack of synovitis after his jumping out, he had never had any trouble before he jumped. This specimen looks to me like a little piece off the femur. When it was fresh its physiognomy was very striking; the fringe was one-sixteenth of an inch in some places. I am very sorry I did not have it examined and get the histology of it, but I was not specially interested in the matter at the time. I did not use a drainage tube in this case. On two other occasions, where I opened the joint for needles, I did not use drainage tubes, but I took very careful antiseptic precautions and handled the joint as little as possible. I never redressed any of the cases after they once left the operating table. I have taken these out twice in that way. In a large wound I would be inclined to drain; or where I had searched and done a great deal of handling, there I would use a drainage tube; but I am partial to the spray, and I would use the spray to-day in such cases.

Dr. FOWLER.—In connection with the case I have mentioned, there was a history of the injury. About a year previously, the patient, in kneeling, had brought her whole weight to bear, with the knee flexed, upon a common poker, such as is used for furnaces, and she had considerable synovitis following the accident. The latter passed away, but symptoms of loose cartilage occurred in the course of the following year, and it was then that I opened the joint and found the condition described, the removal of which cured the patient. In connection with the removal of these floating bodies, it would be well to search for and remove such vegetations or fringe-like processes of the synovial membrane as might exist, in order to prevent a recurrence of the disease. In

Dr. Feeley's case, I am inclined to think that the portion removed was a portion of the tibia covered with cartilage, which had been separated by traumatism.

Dr. THALLON.—I do not know that I can add anything very directly, Mr. President, except to ask for a little information on a case I saw three months ago. The case was that of a man who drove an ice wagon, and in jumping down from the wagon he injured his knee-joint and suffered acute pain. He was taken home; acute inflammation of the joint occurred, and I was called in in consultation. The joint was much swollen; whether there was any loose cartilage in it or not I do not know. There was certainly some other deposit, rice bodies so-called, and when I saw it I strongly advocated opening the joint, cleaning it out, and examining the cartilage. This the attending physician was not inclined to do, and I heard that the patient died sometime afterwards, after an attack of pericarditis. I thought, in looking over the case at the time, why would it not be justifiable in a case like that, where you find distinct injury preceding or giving rise to a severe inflammation, to have washed out that joint—wouldn't it have saved that case? It seemed to me then, and it seems to me now, that there is an amount of timidity prevalent on the question of interfering with joints.

Dr. CREAMER.—Dr. Thallon, how long after the injury did he die of the pericarditis?

Dr. THALLON.—It was fully six weeks.

Dr. CREAMER.—You think the pericarditis was connected with it?

Dr. THALLON.—I certainly think so.

Dr. FOWLER.—I should think it was some expression of septic infection.

Dr. THALLON.—Very likely it was derived from that knee-joint. I could not see any other cause, as pericarditis is usually the expression, not of direct injury, but secondary to something else, either an acute attack of rheumatism or some septic trouble. It seems to me that the case is one where sepsis was at work, starting with the knee-joint. He was a large, strong man; and I think if the joint had been operated on he would have been saved.

Dr. FOWLER.—I think there can be no question as to the propriety of operating upon the knee joint, and draining and washing. As to this particular case, perhaps, it would be difficult to trace directly the connection, although suspicions might be aroused. What was the condition of the knee-joint when he died?

Dr. THALLON.—It was still considerably swollen.

Dr. FOWLER.—Was there any pus, or evidence of pus?

Dr. THALLON.—There was synovial effusion; whether it was pus or not I do not know. I had no opportunity for determining.

Dr. FEELEY.—If I suspected pus, I would certainly open the joint at once, and use a drainage tube; but you would have to make your own observations, and draw your own conclusions in each case of this character.

Dr. FOWLER.—It is my practice in all cases of recurring synovitis, and by this I mean particularly those cases where an injury has been received, the patient recovering from the immediate effects of the injury, and yet during the next year is subject, upon ordinary or slight exertion, to recurrent attacks of synovitis, to puncture the joint with an ordinary trocar and wash it out. In case pus is found, I flush the joint with bichloride solution, after Schede; otherwise, I prefer to wash it out with some slightly stimulating fluid; for instance, a two and one-half per cent. solution of carbolic acid, or 1 to 4000 hydronaphthol, and invariably get good results, both as to the immediate result of the operation and to the recurrence of synovitis.

Dr. THALLON.—Dr. Fowler, how long would you wait after the occurrence of the injury?

Dr. FOWLER.—Two or three weeks after the occurrence of effusion would be sufficiently long to wait. I think, frequently, cases of synovitis will clear up after that time; but after the lapse of three weeks, if fluid remains in the joint, with functional debility, I should open the joint.

Dr. THALLON.—I may say, in the case which I mentioned, the practitioner was a German; and he had kept this joint packed with ice for a long while; and when I saw it it had been so treated for two or three weeks. I suggested withdrawing the ice and treating with stimulating applications, which he did; and there was marked diminution of the fluid. At the same time foreign bodies of some sort remained in the joint, and I then urged an operation; but the family would not accede to that, and the case went on from bad to worse from that point.

My question, Mr. President, is this: Inasmuch as the drift of surgical opinion is towards the treatment of inflammation in serous membranes by immediate opening and drainage and washing out, is it not similarly good treatment to drain the joints?

Dr. FOWLER.—I would say here that it is a well known fact, that in a case of purulent infiltration in the peritoneal cavity the systemic symptoms follow very rapidly, and it is also well known that in those of the joints the systemic symptoms follow very slowly. I think, practically, it is found that large effusions in the knee-joint may occur and even perhaps be due to some septic influences, and yet the patient's life is not so immediately threatened as in the case of the peritoneal cavity.

Dr. WIGHT.—It seems to me to shift itself in this way: It is well

known that in a state of ordinary health we can open the head, or the belly, or the joints, or the pericardium, or the chest, with perfect impunity; that is a well recognized fact I believe, nowadays, under proper antiseptic precautions. Now, why should we make haste until we are reasonably certain that there is a cause or condition there that requires interference. It does not prove anything, that we operate with impunity; it does not prove that it ought to be done because the patient gets well. It is a question whether that condition there is sufficient to warrant its being done. I can conceive that a great many knee-joints may have inflammation and get well without any trouble, and a great many with bad conditions may not get well, owing to constitutional conditions. I am afraid we antiseptic surgeons, if we call ourselves such, think we can put together any tissues. You can kill all the microbes, you may operate as much as you like, and you may hermetically seal against microbes, and still they are present. Now, shall we say that the microbes kill our patients, when our patients, for some other reason, cannot live any longer?

WILLIAM M. THALLON,
Secretary.

THE BROOKLYN MEDICAL JOURNAL.

EDITORIAL.

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TYPHOID FEVER IN BROOKLYN.

The statistics of the Health Office as to the prevalence of Typhoid Fever, in any given period, are very incomplete, if the opinions of physicians as to its diagnosis are as unsettled as they appear to be. Many questions have been asked as to what one diagnostic sign shall settle the recognition of Typhoid. This ascertained, the report to the Health Board becomes a legal duty. The question is of importance, because information from all parts of the jurisdiction begets an array of facts which it may be in the power of the authorities to use, both as to discovery of the essential cause, and to the prevention of its spread. As is well known the cause fails to appear in most instances and, thus far, large sanitary regulations have had only the most general application.

The description in the text-books of a typical case of typhoid is very rarely a clinical experience. Typhoid is essentially an enteric fever, and when the enteric symptoms are markedly, or even faintly, manifest in the course of a continued fever, there is no difficulty in the diagnosis. The confusion of opinions arises when a case of continued fever shows no enteric symptoms from its beginning to its close. And the settlement of this question is of importance, because it is of importance to know whether infection can arise from such a case of fever and the disease be communicated. On the decision in such cases depends the necessity of reports to the Health Board.

It is in the experience of many that cases of continued fever, with but slight variations in the morning and evening temperature, and lasting for from four to ten weeks, do occur; and these, without any recognizable enteric disorder. There may be a free digestion through the whole course of the fever; with an absence of all symptoms of intestinal irritation. Are these cases, those of typhoid? If it can be proven that occasional fevers of

this kind do appear and that epidemics of such fevers do appear, utterly removed from periods of typhoid epidemic, it might be proper to class them as continued fever and not related to typhoid. But it is safe to assert that these fevers do not occur, either as isolated cases or in groups, except in times of epidemic typhoid. It is also true, that these benign forms of continued fever are found close to the conditions under which typhoid is developed, whether of immediate locality or in the same household. It has likewise been observed that these continued fevers are very sensitive to dietetic irregularities, markedly at the turning point of convalescence, and that extreme watchfulness is needful to prevent intestinal disturbances, through the ingestion of unsuitable food. It is a matter of large importance to consider whether in these cases of fever which have been so prevalent in this city during the fall and winter of the past three years, the serious enteric symptoms revealing the true typhoid, may not have been induced by unsuitable treatment, medicinal and dietetic, and, in the mild cases, whether the serious enteric symptoms have been averted, and thus the true typhoid masked by diligent and guarded treatment.

The evidence is all in the direction of classing these continued fevers as typhoid and they should be reported, as such, to the Health Office. This information it is entitled to, under the law. It might not be able to do much toward suppressing it by sanitary surveillance, for the causes are, in all probability, local and personal; that is, they are the result of personal exposure and imperfect household sanitation. On the other hand if the Health Office were informed of all the cases, it could, at small expense, issue weekly, maps of the city, with the affected localities dotted: thus putting the profession, in return, in possession of most interesting and instructive facts. As the Health Board could not, possibly, impose any hardship on the householder, physicians by reporting all these cases, would give the sanitary interests of the city the benefit of the doubt.

THE NEW HEALTH COMMISSIONER OF BROOKLYN.

The term of Dr. Andrew Otterson as Health Commissioner having expired February 1st, Mayor Chapin has appointed Dr. John Griffin as his successor. With Dr. Otterson, as he retires to private life, go the best wishes of the profession.

Dr. Griffin is a graduate of Queen's University of Ireland, coming to this country in 1867. In 1873, he received his degree of Doctor of Medicine from Bellevue Hospital Medical College, and has been actively engaged in the practice of his profession since that time in Brooklyn. Dr. Griffin is a member of the Medical Society of the County of Kings,

and has been for a number of years an active member of the Board of Education and Chairman of its Committee on Health.

In the new duties which will devolve upon him, he will have the cordial sympathy and co-operation of the medical profession of Brooklyn, and whatever assistance the JOURNAL may be able to give him. We wish for him a most successful administration.

THE PROPHYLACTIC TREATMENT OF DIPHTHERIA.

Dr. Ezra M. Hunt, Secretary of the State Board of Health, New Jersey, has had remarkable success in preventing the spread of diphtheria in families into which the disease has found an entrance. Learning this fact, and knowing Dr. Hunt to be a most careful and competent observer, he was asked to give his method for the benefit of the profession of Brooklyn. Dr. Hunt is very desirous that physicians will make a trial of his treatment; and it would seem that in a city where 950 deaths from diphtheria occur in a single year, as was the case in 1887, representing at least 3,000 cases, abundant opportunity could be found to make a most thorough and crucial test. We shall be glad to record the experience of physicians who may adopt the suggestions which are made by Dr. Hunt in his letter, which will be found under Correspondence.

SCARLET FEVER.

Science has recently begun an inquiry in reference to scarlet fever, and the means by which its spread may be prevented, which has already elicited much valuable information from physicians and sanitarians generally. This inquiry was inaugurated by sending the following letter throughout the country:

“The prevalence of scarlet fever in all parts of the civilized world, and the great mortality therefrom, amounting in England alone during five years to 88,273 deaths, have induced *Science* to institute an inquiry into the reasons for such a condition of things,—whether it is a fact that this disease is not amenable to control by sanitation; or whether sanitarians have not suggested any practical method by which it may be controlled; or whether parents, teachers, health authorities, and others neglect to carry out the recommendations which sanitary science has made. With the object of helping to determine these questions, will you kindly answer the following inquiries:

1. Do you believe that scarlet fever ever arises, at the present time, *de novo*, as distinct from a pre-existing case? If so, on what grounds do you base that belief?

2. Is there any doubt in your mind that scarlet fever is a communicable disease, and, if so, what reasons have you for that doubt?

3. If you believe it to be communicable, can you give any instances which have come under your own *personal* observation, tending to prove its communicability? If so, please give them in detail.

4. Have you any information touching the communication of bovine scarlet fever to man, either by contagion or the milk of the affected animal?

5. When does a patient who has had scarlet fever cease to communicate it to others?

6. Can you give any instances which have come under your own *personal* observation in which clothing, toys, books, or other articles have communicated the disease? If so, please give them in detail.

7. How long have you *personally* known such articles to retain the infection?

8. Should boards of health require reports of cases of scarlet fever to be made to them, and, if so, by whom and why?

9. What is the duty of boards of health if such reports are received?

10. Is there any plan which, if put into execution, would, in your judgment, prevent the spread of scarlet fever?

11. If so, can you give instances in which it has practically done so?

12. Do you believe that anything can be done, by the use of remedies or otherwise, to prevent well persons from contracting scarlet fever when they are exposed to it?

13. Can you give any *evidence* not under your own personal observation, but sufficiently authenticated by competent authorities, printed or otherwise, touching any of the questions propounded in this circular."

The answers to this circular have been very numerous, and as they contain much that is practical, we shall quote from time to time the most salient points which are brought out in them.

In regard to the *de novo* origin of scarlet fever, but few of the correspondents maintain it. In speaking on this point, Dr. William K. Newton, Health Officer of Paterson, N. J., says: "I have often seen isolated cases of this disease beginning at a time when no other case existed in the city. Many times I have seen a single case begin without any probability of an exposure to another case, but I do not think we are justified in accepting the theory that the disease may arise *de novo*

because of our inability to find the original case. But there is much to lead us to study this side of the question, for filth may be a possible cause."

Writing on the same subject, Dr. Hargis, of Pensacola, Florida, says: "I have seen scarlet fever on two occasions, in an isolated house,—no other cases in the city nor in the neighboring places,—the source of which could not be traced to any focus of infection outside the walls of the dwellings in which the cases existed. I have also seen measles, a congener of scarlet fever, undoubtedly a contagious disease, spring up spontaneously, and spread from a single isolated place all over the city, thus apparently arising *de novo*. Upon careful and anxious inquiry in regard to the above-mentioned instances of spontaneous development of scarlet fever and measles in isolated places, I was informed that none of the parties in those houses had had any correspondence, by letter or otherwise, or purchased or received any fabrics, or indeed articles of any kind, from persons at a distance anywhere. All infectious and contagious diseases are associated, as a rule, with cutaneous eruptions or glandular affections, and capable of propagation by inoculation. Whooping-cough may be an exception so far as eruptions and glandular affections are concerned."

There is no doubt but that very few physicians have any confidence in the theory that scarlet fever ever appears without a pre-existing case to account for it. This relation, it is true, may not be traceable in the majority of cases, but this is equally true of small-pox and other communicable diseases, the spontaneous origin of which but few maintain.

SMALL-POX IN BROOKLYN.

The following table gives the reported cases of small-pox and the deaths from that disease for a series of years:

Year.	Reported Cases.	Deaths.
1873	426	118
1874	268	53
1875	2519	619
1876	1131	309
1877	85	3
1878	1	0
1879	6	2
1880	14	2
1881	498	142
1882	185	65
1883	12	3
1884	14	2
1885	16	0
1886	125	7
1887	213	88
1888 (Jan. 1 to Feb. 21.)	145	23

The number of deaths recorded in this table does not accurately rep-

resent the mortality, inasmuch as the deaths during some of these years which occurred in the hospital at Flatbush are not here recorded, while in other years they are. It will be seen from a study of this table that small-pox has not prevailed to any considerable extent in Brooklyn since 1881, when there were 498 cases. Before that a considerable interval had elapsed without the appearance of the disease to an amount to excite popular apprehension. In fact in one year, 1878, there was but a single case in the city, a freedom from the disease which, so far as we know, is unparalleled in the history of Brooklyn. In 1875 small-pox raged as an epidemic, extending over into the year 1876.

We learn from the officials at the Health Department that the present outbreak began in October, 1887. On the 11th of that month a case was reported in Monroe St. There had been no case in the city prior to this since September 11th. October 24th a case was reported at the lodging-house known as "The Good Samaritan." November 9th a case occurred at Raymond St. Jail, and on the 10th another at 54 Fulton St., a lodging-house. On the same day still another case was reported, this time in Adelphi St., the patient being a domestic who had been visited by a friend, a lodger at 54 Fulton St. From September 11th to December 31st, there were 36 cases reported, including six at the Penitentiary. From the history of the outbreak in 1887, it would seem that the lodging-houses were the foci from which the disease spread. From January 1, 1888 to Feb. 21, there were 145 cases reported, and it is the opinion of the health officials that the lodging-houses are responsible for most of these cases.

Health Commissioner Griffin has a large force at work in the endeavor to prevent the further spread of the disease. It is gratifying to the medical profession to know that Dr. W. E. Griffiths is still in the department. He has during his twelve years connection with the health service of the city been called upon repeatedly to cope with small-pox and has always been equal to the task.

A CONTAGIOUS DISEASE HOSPITAL FOR BROOKLYN.

The necessity for a hospital in which contagious diseases may be treated has been recognized by the Health Department and the medical profession for many years. In the report of the Commissioner of Health to the Mayor for the year 1885, this necessity was expressed in the following language: "The need for a hospital within the city limits, to which cases of contagious diseases can be sent for treatment, becomes more and more imperative. These cases, occurring as they do frequently in crowded boarding houses, cannot, in the present condition of things, be taken care

of at any of the hospitals of the city, and must either be left where they constantly endanger the lives of their fellow boarders, or be removed to the common wards of the County Hospital at Flatbush. The lack of power to establish such a hospital has been a great embarrassment to this Department in past years, and will be much greater in case of an epidemic. The Municipal authorities are agreed upon the advantage to accrue to the city from such a hospital, and with their sanction a bill was introduced into the Legislature of this year, which passed the Senate, but did not pass the House, owing to lack of time, but was on the order of third reading when the Legislature adjourned. It should be again presented during the coming session and its passage urged. It leaves the question of cost entirely to the Board of Estimate." During the session of the succeeding Legislature such a bill was introduced and passed, and the Board of Estimate appropriated \$20,000 for this purpose. This money was not available until January 1, 1888, so that until that time no steps could be taken to utilize the appropriation. Dr. Otterson could not in the last month of his term do much towards putting a new project of this magnitude into operation, and, we presume, did not desire to take any steps which might commit his successor to a plan not of his own choice, and therefore up to the present time nothing has been done. The matter is now wholly in the hands of Commissioner Griffin and we shall be glad to learn that a commencement has been made looking toward the selection of a suitable site for a contagious disease hospital, the want of which has been felt for many years, and without which a health service is not and cannot be thoroughly organized and equipped to meet the emergencies which are sure to arise in a city whose population is nearly 800,000.

This matter formed a subject of inquiry for the last Grand Jury, and among other recommendations which they made, was one to the effect that such a hospital was needed and should be constructed. So far we are in accord with this body. Their recommendation included a suggestion with which we cannot agree: that this hospital should not be within the city limits. This we think is a mistake. One important object of such a hospital is that those sick with contagious diseases may not be subjected to the exposure and danger which an unnecessarily long ride imposes on them. Persons attacked with any one of these diseases, even though it may be small-pox, are removed from their homes, not for their own good, but for that of the public, and the public should surround their removal with every precaution that will tend to render it safe and harmless. If patients are therefore carried long distances, the risks which they run

are increased; especially is this true in the winter season. Then too, the attempt to establish such a hospital outside the city limits will arouse antagonism which cannot easily be allayed, and which may be so powerful as to utterly defeat the project. There are localities within the city limits where such a hospital can be safely constructed, and from which it can be removed when the growth of population or business interests require its removal. When, therefore, the contagious disease hospital is built we hope to see it located within the city, and at a point so near to the inhabited part as to require the least possible exposure of patients in their transportation thereto, and yet sufficiently remote not to endanger the public health by its proximity.



THE ASYLUM FOR NARCOTIC HABITUES.

As announced in our January number, the project for founding an institution in this city for the treatment of persons addicted to opium, chloral and cocaine, is now well under way, and the following gentlemen fully endorsing the work will act as directors:

Drs. Skene, Raymond, Hutchins, Thayer, Gray, Rockwell, Mathewson, and McCorkle; Drs. T. Gaillard Thomas, Alfred L. Loomis, Edw'd G. Janeway, Allan McLane Hamilton, and Geo. F. Shrady; Rev. Wm. Ormiston, D.D., Rev. Chas. F. Deems, D.D., Rev. Dr. Cuyler, Rev. Chas. H. Hall, D.D., and Rev. Chas. Cuthbert Hall; Hon. Amos G. Hull, Pres. Soc. of Med. Jurisprudence; Gen. C. T. Christensen, General Manager, Drexel Morgan & Co.; Chas. H. Miller, City Editor, *N. Y. Times*; J. N. Hallock, publisher *Christian at Work*, and Charles Avery Welles, Publisher, *The Doctor*.

It is proposed to secure an endowment of two hundred thousand dollars, the income from which, with that of paying patients, will, it is believed, defray expenses.

If opened, this institution will be the only one of the kind in the world, offering the aid of scientific treatment to a large and enlarging class of worthy unfortunates, and promising to effect a vast amount of good.

Subscriptions and contributions, conditional upon the entire amount desired being secured, are earnestly invited, and may be sent to Gen. C. T. Christensen, care of Drexel, Morgan & Co., New York.

PROCEEDINGS OF SOCIETIES.

THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

The sixty-seventh annual meeting of the Medical Society of the County of Kings was held in the Society Rooms, 356 Bridge St., Tuesday evening, January 17th, 1888.

The President, Dr. Wallace in the chair.

Secretary, Dr. De La Vergne.

There were about seventy-five members present.

The minutes of the previous meeting were read and approved.

The President declared the election to membership of the following :
Dr. Henry D. White, Dr. Wm. E. Stratton, Dr. O. A. Gordon, Dr. Eugene Hodenpyl, Dr. Mary Wattles Faunce.

The Annual Report of the Secretary was then read, and on motion received and adopted.

The Report of the Treasurer on Membership was then read and accepted.

The following Officers were then elected for the ensuing year :

President—Dr. Wm. Wallace.

Vice President—Dr. A. Ross Matheson.

Secretary—Dr. Wm. M. Hutchinson.

Asst. Secretary—Dr. David Myerle.

Treasurer—Dr. Walter B. Chase.

Librarian—Dr. Jos. H. Hunt.

Censors :—Drs. C. Jewett, A. Hutchins, J. A. McCorkle, F. E. West, Chas. E. De La Vergne.

Trustees :—Drs. C. Jewett, A. Hutchins, Jos. H. Hunt, A. Ross Matheson, Wm. M. Thallon.

Delegate to Queens Co. Medical Society—Dr. J. B. Mattison.

Delegate to Medical Society of the State of New York—Dr. Wm. Mad-dren.

Annual Reports of the Treasurer on Finances, of the Librarian, of the Trustees, and of the Directory for Nurses were then read, and on motion received.

The recommendations of the Librarian and Treasurer were discussed and adopted.

The Committee appointed on legislation to prevent adulteration of foods and drugs made a report which was received and adopted by the Society.

The Scientific business of the evening was a discussion of a paper on

"The Treatment of Fevers," read by Dr. B. F. Westbrook at the previous meeting. It was discussed by Drs. Butler, Kretzschmar, Eccles, Van Cott, Bartley, Bartlett, Colton, and Westbrook. After a short discussion on the subject of the manner of dealing with Typhoid fever cases by the Health Department, the Society adjourned.

CHAS. E. DE LA VERGNE,
Secretary.

KINGS COUNTY PHARMACEUTICAL SOCIETY.

Regular meeting at 356 Bridge St., 3 P. M., Jan. 10, 1888.

Mr. DEFOREST, for Legislative Committee said there had been no occasion for a meeting of the Committee. The New York City Board of Pharmacy had had some trouble in enforcing their law, but now say they are able to enforce it, and do not ask for any legislation. The Committee were authorized to confer with the similar committee of the N. Y. College of Pharmacy if occasion arises.

Mr. PADDOCK, for Committee on Unofficial Formulary, reported that the work was progressing rapidly. The book will appear in the Spring. The proposition, which has been submitted to the Editing Committee, to increase the strength of Elix. Cinchona from about fifteen grains in the ounce, as in N. Y. & B. Formulary, to 30 or 40 grains was discussed. The weight of opinion was in favor of the old form. Some doubt was expressed as to whether any of the manufacturers really put in 40 grains as stated on their labels.

Dr. ECCLES criticised the nomenclature of the Formulary, instancing "Elixir Rubi" as likely to cause confusion as to whether Blackberry (*Rubus Villosus*) or Raspberry (*Rubus Ideus*) is intended.* Blackberry is officinal as *Rubus*, Raspberry as *Rubus Ideus*. Elix. Rubi, therefore, can only mean Elix. Blackberry.

Mr. GALLAGHER wished to know if there had been any change in the formula for Syr. Hypophos. Ci. He usually made it, but under a pressure of work had bought some in New York which seemed different.

Mr. DEFOREST thought we should each make our own preparations. They could be made cheaper and fresher, and the experience is of great value to the dispenser. Mr. Stevens spoke to the same effect.

Mr. McELHENIE, for Library Committee reported progress.

Mr. STEVENS, for Lecture Committee said that the course was going on all right. There had been some accessions to the class lately, which numbers over thirty bright young men.

*It is proper to mention that terms used in the National Formulary are either defined in that work or are Pharmacopœial.

Mr. DE FOREST referred briefly to the published report of a case of poisoning by arsenic chloride in the 26th Ward. He thought the analysis or the newspaper account must be in error, as it would hardly be possible to dissolve 55 grains in the medium described.

Dr. ECCLES said a case had been reported in England, where a large quantity of arsenic had been found by autopsy. It transpired that it had been used by the undertaker.

Mr. NICOT brought up the subject of Suppositories and desired suggestions as to ways of making.

Dr. ECCLES said soap worked nicely as an addition to the cocoa butter when admissible.

Mr. CHAGNON used a few drops of olive oil.

Mr. DE FOREST favored the use of moulds, which are so much decried. Cocoa butter may be readily rubbed to powder with a little alcohol.

Dr. HEYEN makes them nicely with his fingers, rolling with Lycopodium. This latter point was roundly denounced by another speaker, who said a doctor told him always to pack in cotton.

Mr. DAVIS had heard of a case where suppositories rolled in powder. licorice root had produced some irritation, due to the woody fibre in the powder.

Mr. McELHENIE used grated cocoa butter, and dispensed in partition boxes, without any powder or cotton. As he made them by a machine, he expected soon to have all the trade, and the making of suppositories would become a lost art among the members present.

On motion of Dr. Eccles, a committee was appointed to inquire into the case of the young drug clerk recently apprehended in this city as an escaped convict, and if the results warrant it, to have power to act to the extent of presenting a memorial to the Governor, asking the release of the prisoner. Committee—Dr. Eccles, Dr. Heyen, Messrs. Pad-dock, Nicot and Davis.

Adjourned.

BULLETIN OF SOCIETIES.

MEDICAL SOCIETY OF THE COUNTY OF KINGS,

WILLIAM WALLACE, M.D., President.

Meets at 356 Bridge St., on third Tuesday evening of each month.
Council meeting on Wednesday evening previous.

Next meeting Feb. 21st, when papers will be read by :—

Dr. Geo. R. Fowler, on Surgical Fever ; and Dr. J. M. Van Cott, Jr., on Infantile Umbilical Hemorrhage with report of a case.

BROOKLYN PATHOLOGICAL SOCIETY.

JOS. H. HUNT, M.D., President.

Meets at 356 Bridge St., on the 2nd and 4th Thursday evenings of each month. Next meeting Feb. 23rd.

Dr. B. F. Westbrook will present a case of Tubercular Laryngitis.

Dr. Emmett D. Page will present a case of Single Kidney.

At the meeting to be held March 8th, Dr. L. E. Tieste will read a paper on the Pathology of Carcinoma.

BROOKLYN SURGICAL SOCIETY,

FRANK W. ROCKWELL, M. D., President.

Meets at 356 Bridge St., on the 1st and 3rd Thursday evenings of each month.

Next meeting March 1st, when a paper will be read by Dr. F. W. Rockwell. Subject : Is the immediate wiring of fractured patella a justifiable operation ?

March 15th. To be announced.

KINGS COUNTY MEDICAL ASSOCIATION,

E. R. SQUIBB, M.D., President.

Meets at Everett Hall, No. 398 Fulton St., on the 1st Tuesday of each month. Next meeting March 16th.

*MEDICAL MICROSCOPICAL SOCIETY OF THE CITY
OF BROOKLYN,*

WM. H. BATES, M.D., President.

Meets at members' houses on the 1st Wednesday evening of each month.
The next meeting will be held March 7th.

BROOKLYN DENTAL SOCIETY,

J. P. GERAN, President.

Meets the 4th Monday evening of each month at 356 Bridge Street.

The next meeting will be held Monday, Feb. 27th.

Dr. J. N. Farrar will read a paper on Regulating Teeth, with black-board illustrations.

KINGS COUNTY PHARMACEUTICAL SOCIETY,

LUTHER F. STEVENS, President.

Meets on the 2nd Tuesday afternoon of each month at 356 Bridge St.

The annual meeting will be held March 13th, when the election of officers will take place.

KINGS COUNTY BOARD OF PHARMACY,

WM. P. DEFORREST, President.

Meets on fourth Thursday afternoon of each month at 356 Bridge St.

The next meeting will be held March 23rd, when candidates for registration as pharmacist and assistant pharmacist will be examined.

The Lecture Course of the Kings County Pharmaceutical Society is held at Grenada Hall, 120 Myrtle Ave., on Thursday afternoons at 2.30 o'clock.

The lecture Feb. 16th will be by C. E. De La Vergne, on "Acids as Poisons."

Feb. 23, by Dr. Jos. H. Hunt, on "The Microscope in Pharmacy."

March 2nd, by Wm. M. Davis, on "How to study pharmacy."

March 9th, by Thos. D. McElhenie, on "Ointments and Cerates."

*NEW YORK STATE MEDICAL ASSOCIATION.**Fifth District Branch.*

PRELIMINARY NOTICE.—The next meeting of the Fifth District Branch will be the fourth annual meeting, to be held in Brooklyn, on Tuesday, May 22nd, 1888. There will be a morning and an afternoon session.

All Fellows are solicited to contribute to the meeting, either by reading papers, notes or communications, or by exhibiting specimens.

All papers offered are the property of the Branch, and will be published in a current Medical Journal.

The Secretary desires to be notified of the title of any paper to be offered as early as convenient.

E. H. SQUIBB, M.D.,

Secretary,

P. O. Box 94, Brooklyn.

EDWIN BARNES, M.D.,

President.

PROGRESS IN MEDICINE.

OBSTETRICS.

BY CHARLES JEWETT, A. M., M. D.,

Professor of Obstetrics and Diseases of Children, and Visiting Obstetrician, Long Island College Hospital ; Physician-in-Chief to the Department of Diseases of Children, St. Mary's Hospital, Brooklyn.

PURULENT OPHTHALMIA OF THE NEWBORN.

Cohn [*Zeitschrift f. Geb. u. Gyn.*, Bd. XIII, Hft. 2, *Nouvelles Archives d'obstetrique et de gynecologie*, 25 Oct., 1887] asks and answers the following questions with reference to the prophylaxis of purulent ophthalmia of the newborn :

Is nitrate of silver an antidote to the ophthalmic virus?

Are there other disinfectants for the purpose?

Is not extreme cleanliness sufficient?

At the gynæcological clinic at Berlin, during the year 1883, the morbidity under the method of Credé was 1.5 per cent. as against 9.7 per cent. without prophylactic treatment. The instillation of a one-tenth of one per cent. sublimate solution yielded a morbidity of six-tenths of one per cent. A one-half of one per cent. solution of the sulphocarbolate of zinc gave a morbidity of three-tenths per cent.; but this treatment was accompanied with a careful disinfection of the maternal organs before and during labor. Wiping dry the lids immediately after labor resulted in 1.9 cases of ophthalmia in 100.

Nitrate of silver is therefore not a specific.

Is the ophthalmic virus identical with that of blennorrhœa? Cohn distinguishes two forms of purulent ophthalmia, the one truly blennorrhagic and infectious, in the pus of which is found the gonococcus of Neisser, the other a benign conjunctivitis which suppurates. Clinically the two forms are distinguished : 1st, by their course, the blennorrhagic form invading the cornea, the benign tending to recovery ; 2d, in the blennorrhagic form the conjunctiva is œdematous and of a deep red and raspberry-like appearance. The pus contains the gonococcus which is also found in the lochia.

Is there any prophylactic management that may be considered an established rule of practice? None of the methods of treatment have earned that distinction. On the other hand the fact that the infection proceeds from the mother suggests the importance of enforcing all the recent measures for promoting the cleanliness and antisepsis of the maternal genital organs.

[Rivière is not fully in accord with Colm, with reference to the nature

of the ophthalmic poison. He ascribes the disease in all cases to the gonococcus of Neisser. Rivière asserts that nearly one-third of all cases of blindness are due to purulent ophthalmia.—J.]

TETANUS NEONATORUM.

Editorial [N. Y. M. R., Dec. 24, '87]. The etiology of this disease has long been in dispute. Among the causes assigned by different writers are pressure from inward displacement of cranial bones, umbilical phlebitis, uræmia, rheumatic influences and umbilical injuries. Recent pathological investigations seem to prove that tetanus in general is a disease of microbic origin. This view is supported by the experimental researches of eminent pathologists.

In the Berlin Klin. Wochenschr., No. 30, '87, Dr. Beumer announced that he had been able to communicate tetanus to mice and guinea-pigs by inoculating them with tissue taken from the umbilicus of an infant who had died from tetanus neonatorum. Dr. E. Peiper, (Centralblatt f. Med., Oct. 15, '87,) corroborates the conclusions of Beumer. The evidence thus afforded seems to show that tetanus of the newborn is an infectious disease of microbic origin, identical with ordinary traumatic tetanus. It cannot yet be denied, however, that tetanic symptoms in infants may sometimes be explained as a mere reflex neurosis of traumatic origin. Hence the importance in practice of a careful examination for the causes of reflex irritation. On the other hand the recent discoveries emphasize the importance of strict antiseptic treatment of the umbilical stump and the navel wound.

SECTIONAL ANATOMY OF LABOR, THIRD STAGE.

A. H. F. Barbour, [Ed. Med. Journal, Nov., '87,] reaches the following conclusions:

Evidence is accumulating that at the beginning of the third stage the placenta is wholly or for the most part attached.

The area of the placental site may be reduced to four by four and a half inches without separation of the placenta.

Diminution of the placental site beyond these limits, together with the action of the uterus upon the whole placental mass constitute the mechanism of separation.

Effusion of blood behind the placenta is an accident merely and plays no essential part in the mechanism of separation.

During expulsion the placenta generally presents by its edge or some point near it, as taught by Duncan. Sometimes it descends foetal surface first, as claimed by Baudelocque and Schultze.

MANUAL CONVERSION OF FACE PRESENTATIONS INTO OCCIPUT POSITIONS.

Dr. Thorn [*Zeitschrift f. Geb. u. Gyn.*, 1886, XIII., No. 1] advises a combination of the methods of Baudelocque and Schatz in certain cases of face presentation.

The patient is anæsthetized and placed on the side corresponding to the direction of the child's chin. One hand of the operator, passed through the vagina, hooks down the occiput, while the other, applied over the abdomen, thrusts the chest of the child backward till its body assumes the normal kyphotic posture. The membranes are then ruptured and the mother placed on the side corresponding to the occiput. The method is permissible only when the face has failed to engage in the excavation. It is contra-indicated in narrow pelvis and in cases in which the life of the mother or the child is in imminent danger.

PRIMARY LAPAROTOMY IN EXTRA-UTERINE PREGNANCY.

Harris [*N. Y. Archives Gynecol.*, Aug., '87] reports twenty-five collected cases, of which seventeen died before the end of four days. Thirteen children died within fifty hours. In six of the twenty-five cases, peritonitis was present before operating.

The total mortality thus far is not less than ninety-two per cent.

If the primary operation is ever to be safe it must be made so by one of two methods :

1. Ligation of vessels that supply the placenta and its removal.
2. Antiseptic treatment of the placenta in situ to prevent decomposition and separation.

The secondary operation not earlier than three months is one of comparative safety.

PLACENTAL LESIONS IN ALBUMINURIA.

Rouhaut [*Nouvelles Archives d'obs. et de gynec.*, Nov., '87] shows that the placenta in albuminuric mothers does not escape the well-known tendency to hæmorrhage in other organs of the albuminuric patient. To the eye the external appearance of the placenta does not differ from the normal unless the hæmorrhagic foci lie near the surface. On manipulation, however, indurated nodules may be felt, which prove to be clots on cutting into them. Four or five such nodules or more may usually be found, most frequently near the placental border.

Placental apoplexies were found in forty per cent. of albuminuric parturients. Placental hæmorrhage, in more than fifty per cent. of the

cases observed, resulted in premature labor. In thirty-eight per cent. the child was stillborn and in the remainder was below the normal weight. Albuminuria without placental lesions was attended with premature birth in twenty-five per cent. of the cases and with stillbirth in twenty-six.

DEFICIENT LACTATION.

The daily use of the primary faradic current with the positive pole to the breast is said to be a reliable galactagogue. Four or five days usually suffice to establish the secretion.

OLD PRIMIPARÆ.

Eckhardt [Centralblatt f. Gynæk.] analyzes the results of five hundred and forty-three labors in primiparæ of more than thirty years of age. His cases were collected from Schroeder's clinic at Berlin. Rigidity of the soft parts, with increased frequency of lacerations and fistulæ were the rule. Disorders of pregnancy were more frequent. Breech presentations, face and twin births and contracted pelvis were encountered oftener than in other primiparæ. Atony of the uterus and retained placenta were also of more common occurrence.

THE VECTIS.

Gallabin [Manual of Midwifery] advocates the use of the vectis in occipito-posterior positions for drawing the occiput forward. He believes the general disuse of that instrument by obstetricians is in this class of cases unmerited. He also uses the vectis in certain cases of brow presentation for converting into vertex or face.

PURULENT PUERPERAL PERITONITIS SUCCESSFULLY TREATED BY ASPIRATION.

Dr. Besnier [Br. Gyn. Journal, Nov., '87] reports a case in which he withdrew five and one half litres of purulent fluid from the peritoneal cavity of a woman suffering from puerperal peritonitis, with the result of saving his patient. Eight weeks or more after the invasion of the peritonitis the abdomen was found distended to the size of an eight months' pregnancy and one-third full of fluid. The operation was done with a medium-sized trocar. Immediate relief followed and the patient gradually made a complete recovery.

LAPAROTOMY IN RUPTURED TUBAL PREGNANCY.

Lawson Tait [Br. Gyn. Jn'l, Nov., 1887,] reports twelve cases of abdominal section for rupture of the fruit-sac in tubal pregnancy with eleven recoveries. Of twenty-three cases previously reported by this

operator all were saved with a single exception.* This makes a total of thirty-five operations with but two deaths.

The author thinks a diagnosis possible in about eighty-five per cent. of the cases, yet, as is well known, he does not consider an exact diagnosis a necessary preliminary to an abdominal section. The operation, he says, is simplicity itself. He places a ligature around the base of the tumor,—the broad ligament,—amputates the ligated mass, removes the débris from the peritoneal cavity and puts in a drainage tube.

COCAINE IN PARTURITION.

Doleris and Dubois [Br. Gyn. Jn'l, Nov., 1887,] have used a four per cent. solution of cocaine in water and glycerine for suppressing pain in the first and second stage of labor. The cervix, vaginal walls and vulva are freely swabbed with this solution during the dilatation of the cervix and the expulsion of the child. The progress of the labor is unimpeded by the drug and pain is totally absent. [If these results are confirmed by other observers chloroform will become a thing of the past in the conduct of normal labor.]

THE VOMITING OF PREGNANCY.

It is said that the vomiting of pregnancy may be successfully treated by vesication over the fourth or fifth dorsal vertebra.

The free use of cocaine in the cervix, and quarter or half-grain doses of cocaine by the stomach, p. r. n., are fairly successful measures.

TREATMENT OF PERITONITIS WITH SALINES.

J. M. Baldy, in a paper read before the Obstetrical Society of Philadelphia [Am. Jn'l Obstet., Dec., 1887,], advocates the use of salines in peritonitis following abdominal section, after the method of Tait. He quotes Agnew to the effect that twenty-five per cent. of deaths after abdominal section are due to peritonitis. He uses large concentrated doses (one ounce) several times repeated, together with large turpentine enemata in fully developed cases. The results are in every way satisfactory. The symptoms begin to subside almost immediately on the occurrence of watery discharges from the bowels. The advantages claimed are depletion of the blood vessels of the intestines and the peritoneum, the consequent diminution of the exudation, the removal of the products of inflammation already accumulated in the peritoneal cavity and the prevention of adhesions through the active peristalsis induced.

Opium, on the other hand, is not only useless, except for pain, but is positively injurious. By splinting the bowels it promotes the formation of adhesions; it moreover closes the avenues of escape for the poisonous products of inflammation found in this great lymph sac, dan

thus does far greater harm than the friction of the peritoneal surfaces can do. [Dr. Baldy's arguments are equally good for the use of saline cathartics in puerperal peritonitis, and abundant experience is accumulating in support of this plan of treatment. In our practice salines have substantially replaced the old plan and with satisfactory results, opium being seldom called for even to relieve pain. J.]

VIABILITY OF PREMATURE CHILDREN.

Tarnier [Br. Med. Jn'l, Dec. 31, 1887,], by means of his *couveuse* and his method of feeding, has succeeded in carrying backward the period of viability of premature children nearly to the sixth month. The *couveuse* is a form of incubator with a glass lid through which the child may be viewed. It is kept in the apparatus except when moved to be washed or fed. The feeding is accomplished by means of an urethral catheter of caoutchouc, used as a stomach tube. The quantity of food allowed is eight grammes of asses' or other milk hourly in case of a very small child.

LIQUOR AMNII AND THE NUTRITION OF THE OVUM.

Dr. Ahlfeld [Trans. German Gynec. Soc., Am. Jn'l Obstet., Jan., 1888,] has demonstrated the presence of large amounts of albumen in the liquor amnii. That liquor amnii is freely swallowed by the fœtus is proved by the abundance of lanugo and vernix caseosa found in meconium. As liquor amnii is no longer present in the intestines it must have been absorbed. The author, therefore, feels justified in the assumption that it contributes to the nutrition of the fœtus.

INCISION OF THE CERVIX UTERI DURING LABOR.

Skutsch [*Ibid*] defends the practice of free incision of the cervix when rapid delivery is called for in the interest of mother or child, while the cervix is not sufficiently dilated. Short incisions only are justified when the cervical canal is still long. Deep incisions are permissible when the narrowness is confined to the lower segment of the cervix (from the junction of the posterior vaginal vault downwards). In a case reported he made six incisions, each about two centimetres long, with scissors. Hæmorrhage, if it occurred, was arrested after each incision by suturing the wound surface before the next incision. After delivery the hæmodynamic sutures were opened successively, and the cervical incisions and lacerations closed by stitching with catgut. The author remarks that in case the lateral incisions tear deeply into the parametrium, giving rise to profuse hæmorrhage, the uterine artery may be circumligated from the vaginal vault.

[It has seemed to us that a prominent danger in the use of these

incisions arises from the difficulty of limiting the extent to which they may tear during delivery. In one case in our practice the posterior incision tore so deeply as almost to open the peritoneal cavity. J.]

THE GENERAL TREATMENT OF PUERPERAL SEPTICÆMIA.

Runge [Am. Jn'l Obstet., Jan., 1888, Abstr. from Archiv. f. Gynæk. Bd. xxx, Hft. 1,] advocates the importance of alcohol in large doses, lukewarm baths and rich food in the treatment of puerperal septicæmia. He abstains from all antipyretics and combats the septic poison by reinforcing the resisting power of the organism. Stress is laid on the fact that the baths are used not for refrigeration but for their favorable effect on the action of the heart and lungs and to improve the appetite. Of twelve cases of sepsis in which this treatment was carried out ten recovered. [Important as these measures are for staying the progress of the septic mischief, the necessity still remains for breaking up the enemies' stronghold by local disinfection, supplemented, if need be, by the curette. Indeed, with prompt resort to local antisepsis the general treatment will seldom be required. J.]

THE TREATMENT OF NAVEL-CORD HERNIA.

Dr. L. Olshausen discusses this subject in the Archiv. f. Gyn. Bnd. xxix, Hft. 3. Without surgical interference, he observes, this malformation is almost certainly fatal. In the Centralbl. f. Gyn., 1884, Nos. 16 and 30, Lindfors reports thirty-two cases of recovery. In five a radical operation took place, in the remaining twenty-seven compression or ligature only was practised. Of fifteen cases seen by Olshausen none survived except those treated in accordance with described operations.

The author refers to cases of successful operation by Breus, Felsenreich, Krukenberg and others, in which the sac was opened, the contents returned and the sac closed with sutures. He thinks, however, the practice of opening the sac should, as a rule, be avoided, and describes a case which illustrates his method of operating. The contents of the sac consisted mainly of intestinal loops. An oval incision around the hernial protrusion was carried through the skin just outside the skin edges. The skin included within the line of incision and the amnion were then stripped off the sac, and the jelly of Wharton removed. The umbilical vessels were tied with catgut. The sac was returned and the abdominal wound closed with six deep silk and seven superficial catgut sutures. The wound was dusted with iodoform and covered with carbolic gauze, the tension of the sutures being relieved by means of plaster strapping. Secondary hæmorrhage from one of the umbilical vessels occurred and the wound gaped for about one-third its length. This portion of the wound closed kindly by granulation, the remainder having united by first intention.

PREVENTIVE MEDICINE.

BY ELIAS H. BARTLEY, M.D.,

Chief Chemist, Department of Health : Professor of Chemistry and Toxicology, and Lecturer on Diseases of Children, Long Island College Hospital, Brooklyn.

TO PREVENT THE ADULTERATION OF FOOD AND DRUGS.

A bill has been introduced into Congress, designed to prevent deception and adulteration in foods and drugs. The bill was framed by a convention recently held at Washington, D. C. The convention was a large and enthusiastic one, and was attended by representatives of health boards, grocers, and those interested in foods of all kinds. The principal features of the bill are to establish a National Bureau on Adulterations, in the Department of the Treasury, with a competent chief, chemical laboratory, chemists, inspectors, etc.

It forbids the manufacture or sale of adulterated foods or drugs in the District of Columbia, or in any Territory, fort, arsenal, dockyard or reservation, or other place under the jurisdiction of the United States. In this connection employees are excused from liability, if they are ignorant of the fact that the goods they make or sell for another are adulterated, and provided they will give to the prosecuting officer all the knowledge they possess relative to the character of the goods and the name of the person or persons by whom the articles had been manufactured. It excuses from blame any person who sells an adulterated article, if he can prove that he bought it on a written or printed warranty that the same was pure. The making or giving of a false or fraudulent warranty, or swearing falsely in relation to any of the proof required, is made a misdemeanor, with a penalty.

It also provides that the collectors of customs shall cause all suspicious articles presented for importation to be submitted to a chemist for examination. If an article prove to be adulterated, it shall be refused admission, and shall be destroyed, or returned to the consignee for exportation. The consignee may appeal from the decision of the chemist at the port of entry, to the Bureau on Adulterations, at Washington, and, if he so desire, to the chemist of the Dept. of Agriculture, by depositing the necessary expenses connected with having such additional examinations made.

It also provides that the Bureau on Adulterations shall publish a monthly bulletin, giving the number, kind, and name of articles found adulterated, with the names of the shippers and importers or consignees. But no publication shall be made revealing the ingredients or processes employed in the manufacture of proprietary articles made by

secret formula, provided such articles are not adulterated within the meaning of the act. Prosecutions must be conducted by any United States District Attorney, to whom the report of the chemist is referred, unless he shall decide that such proceedings cannot probably be sustained, in which case he shall report the facts to the National Bureau on Adulterations. The National Bureau is given the authority to exempt from the provisions of the law any non-poisonous articles, blends, mixtures or compounds, and to fix the limits of variability permissible in any article or compound.

The law clearly defines what shall constitute an adulteration, as follows :

SEC. 8.—That an article shall be deemed to be adulterated within the meaning of this act—

(a) In the case of drugs :

1. If, when sold under or by a name recognized in the United States Pharmacopœia, last edition, it differs from the standard of strength, quality or purity laid down therein.

2. If, when sold under or by a name not recognized in the United States Pharmacopœia, last edition, or the United States Dispensatory, or the National Dispensatory, it differs materially from the standard of strength, quality or purity laid down in such work.

3. If its strength, quality or purity fall below the professed standard under which it is sold.

(b) In the case of food or drink :

1. If any substance has been mixed with it so as to reduce or lower or injuriously affect its quality or strength, or fraudulently increase the weight.

2. If any inferior substance has been substituted wholly or in part for the article.

3. If any valuable constituent of the article has been wholly or in part subtracted.

4. If sold under the name of another article.

5. If it consists wholly or in part of a diseased, or decomposed, or putrid, or rotten animal or vegetable substance, whether manufactured or not ; or, in the case of milk, if it is the product of a diseased animal.

6. If it be colored or coated, or polished or powdered, in a manner injurious to health.

7. If it contains any added poisonous ingredient, or any ingredient which may render such article injurious to the health of a person consuming it ; provided that the National Bureau on Adulteration may, with the approval of the Secretary of the Treasury, from time to time declare certain articles or preparations to be exempt from the provisions

of this act ; and provided, further, that the provisions of this act shall not apply to mixtures or compounds recognized as ordinary articles of food, when the same are not injurious to health, and that the articles are distinctly labeled as a blend or mixture.

(c) In the case of candies of domestic manufacture, and chocolate of domestic manufacture :

If they contain terra alba, barytes, talc, chrome yellow, or other mineral substance, or poisonous colors or flavors, or other ingredients deleterious or detrimental to health.

Should this bill, as prepared by the Pure Food Convention, become a law, it will undoubtedly check the importation of adulterated foods, drinks, and drugs.

In goods of domestic manufacture, it must be admitted that some of its provisions are rather loosely drawn. As agents are not responsible for the violation of the law, it will probably be construed to excuse commission merchants and traveling salesmen who can prove that they are selling or manufacturing under orders from a firm living or doing business in a distant city. Retail merchants are fully protected when they can produce a warranty of purity printed on the invoice or bill, or stamped on the package. The goods may be sold in Washington Territory by an agent of a New York firm. There is no warranty sent with them, and the agent cannot be held under the law ; consequently any prosecution brought must be against the New York firm. The question of jurisdiction of the court will at once come up. Can the firm be compelled to defend itself in a court in Washington Territory ? Can a New York court try an offense committed in Washington Territory ? It is very improbable that Congress will pass the bill in its present shape, if any bill of the kind is passed. It is to be hoped, however, that some measures will be taken by the general government to check adulterations.

MILK SCARLATINA, OR THE RELATION BETWEEN SCARLATINA AND MILK.

This is the subject of three papers by Mr. W. H. Powers, James Cameron, M.D., and Dr. E. Klein, F.R.S., in the Annual Report of the Local Government Board for 1885-86.

An epidemic of scarlatina having broken out among the customers using the milk from a certain farm, these gentlemen made a thorough investigation of the cause, and found several cows in the herd suffering from an eruptive disease, resembling in some respects scarlatina as it appears in the human subject. They believe that this disease was the cause of the epidemic.

The report is very full, and is a valuable contribution to the sanitary bearing of milk as a food.

The disease was characterized by the appearance, on the udders and teats, of a number of flat, irregular ulcers, varying in size from one-quarter to three-quarters of an inch in diameter. The ulcers were at first vesicular, afterward forming pus, which dried up and formed a reddish-brown scab. The teats in the early stages were swollen, red, and feverish. In some animals small spots, denuded of hair, appeared on the skin of the hind-quarters, tail and back.

In some, a small red papular eruption also appeared on the skin around the eyes, accompanied with symptoms of catarrh. There was usually more or less cough and sore throat, with some swelling under the jaws. Dr. Klein's investigations revealed the fact that the disease was inoculable from animal to animal, both by using the lymph from the vesicles and the blood of diseased animals. He found an organism, both in the discharge from the ulcers and in the blood, which resembled the streptococcus of foot and mouth disease. Pure cultures of this organism, when used by subcutaneous injection, were found to produce the disease. He concludes that it is the matter from the ulcers falling into the milk that produces the scarlatina in those who use it. The disease is inoculable upon man by absorption through abrasions or cuts in the skin.

No evidence is presented as to the prevalence of the disease among cows, or as to its origin.

Dr. Klein had previously shown that cows are capable of being infected with scarlatinal poison, especially in the early weeks of lactation, and then the disease becomes inoculable from animal to animal. The only naked eye appearances in the milk was that it soon becameropy on standing.

In his report for 1886-'87, Dr. Klein describes his further studies upon the subject of the organism of scarlatina. These studies confirm his former belief that the disease found in the cows, as above described, is produced by the same organism that he found in the blood, skin, liver, kidneys, and other organs of human scarlatina patients. He finds that calves, guinea pigs, and mice are susceptible to inoculations with pure cultures of the organism. These cultures were made on nutrient gelatin, agar agar, etc., in the usual manner. The growth of the organism is slow in comparison with that of most other organisms, and it does not liquify the gelatin on which it grows. He did not find the micrococcus in the blood in all cases of scarlatina, and when found, the organisms were very sparsely distributed.

He also examined a monkey which died of scarlatina, at Wimbledon, in January, 1886. He obtained the organisms he names *micrococcus scarlatine*, in blood taken from the heart of the animal. The same organism was found in a can of condensed milk which was re-

ported to have caused scarlatina in several families. The bearing of these discoveries, if his observations are confirmed, is of the greatest importance upon the question of cow's milk as a food.

CONDENSED MILK.

Prof. H. B. Cornwall has recently made analyses of the condensed milks of the market for the New Jersey State Dairy Commission, the results of which have appeared in the *American Grocer* for December 7th, 1887, as follows :

BRAND.	Office No. of Samples.	Percentage.								Times Condensed.
		Water.	Fat.	Caseine and Albumen.	Milk-Sugar.	Ash.	Cane-Sugar.	Milk Solids.	Fat in Original Milk.	
Daisy	20	28.75	8.90	8.71	11.08	1.62	40.94	30.31	3.67	2.42
Rose.	21	25.83	8.25	10.40	13.63	2.01	39.88	34.29	3.01	2.74
Anglo-Swiss	26	25.91	9.14	9.17	13.09	1.86	40.83	33.26	3.43	2.60
Royal	27	31.45	8.78	8.21	11.43	1.70	38.43	30.12	3.64	2.41
Crown.....	28	23.91	8.94	9.45	12.60	1.85	43.25	32.84	3.41	2.02
Eagle.....	29	27.17	9.22	8.22	11.98	1.77	41.64	31.19	3.70	2.49
Anglo-Swiss.....	30	25.00	9.86	8.92	12.58	1.85	41.77	33.23	3.71	2.00
Hollandia.....	32	25.49	8.89	9.51	13.05	1.97	41.09	33.42	3.33	2.67
Gem.....	33	28.70	10.22	8.52	16.74	1.81	34.01	37.29	3.43	2.98
Lily	35	28.77	11.06	7.97	15.53	2.40	34.27	36.96	3.74	2.95
Alderney	36	27.44	9.66	9.24	35.17*	1.82	16.67	.....	.....	.....
Tiger.....	37	29.83	11.17	10.07	15.44	2.31	31.18	38.99	3.59	3.11
Diamond.....	38	23.45	11.14	12.20	13.78	1.99	37.44	39.11	3.57	3.12
First Prize.....	41	25.63	10.54	8.89	13.06	1.89	39.99	34.38	3.83	2.75
Dime.....	54	28.45	9.53	8.03	11.34	1.77	40.88	30.67	4.02	2.27
Darling.....	63	29.33	9.26	8.04	11.24	1.85	39.28	.....	3.80	2.38
Average†.....		26.95	9.69	9.25	12.38†	1.92	38.84	34.26	3.54	2.74

*See "Special Remarks" below.

†Excluding No. 36.

‡Excluding No. 63 and No. 54.

No. 21 was not in perfect condition ; a little gas escaped on opening the can, and the milk was full of bubbles caused by fermentation. No. 27 contained considerable undissolved cane sugar. No. 33 was so stiff that it would not run out of the can, had a cheesy smell, curdled even when slightly warmed with water, was of a brownish color, and altogether was of an inferior quality. No. 36 was a dark-brown glutinous mass, with a smoky and cheesy taste and odor. Apparently molasses or glucose had been used in place of at least some cane sugar in preparing it, as the result of the analysis indicates. No. 38 was stiff, of a brownish color, and had a somewhat cheesy smell. The other brands need no comment, as the analysis shows the richness and the quality of the original milk before condensation. It is quite gratifying to learn that the popular and most salable brands are of good quality.

The following remarks by Prof. Cornwall are of interest :

"The very large amount of cane sugar necessary to preserve them renders them, however, an unwholesome food for infants, and they can by no means be regarded as a good substitute for fresh milk in this case.

"The directions on the cans in general state that, by adding a certain quantity of water, the condensed milk can be made to resemble cream; by adding more, it becomes the equivalent of milk. This can never be true; cream contains from three to four times as much fat as the average condensed milk, and no dilution with water will make such milk resemble cream except outwardly. It would be well if all makers would follow the course pursued by a few, and, while giving such directions as are necessary in using the milk for making desserts, etc., recommend that the advice of a physician be obtained as to the diet of infants. Condensed milk preserved with sugar can never be a fit food for infants.

"In some instances, very misleading statements as to the quantity of fresh milk condensed to produce the contents of the preserved milk cans were made. It will be seen that the condensation is very rarely more than threefold, and usually somewhat less.

"A well-made condensed milk, with cane-sugar, should show very little, if any, undissolved sugar, and should be of a nearly white color, having but a faint yellowish tinge. It should have no cheesy taste or smell, and should dissolve readily in about four parts of cold water. Especially should it dissolve without showing separated flocculent particles of casein or curds."

The following remarks of Dr. Bartley, based upon analyses made under his direction, and published in the Annual Report of the Department of Health of Brooklyn for 1886, seem to confirm some of Prof. Cornwall's results:

"To sum up, then, the results of our analyses of the above condensed milks, we must conclude that a large proportion of them are not condensed to one-fourth the original volume of the milk. A considerable number of them are prepared from partially skimmed milk, as shown by the relation between the fat and albuminoids. No process of dilution, in these last cases, can produce an accurate imitation even of cow's milk, much less a resemblance to mother's milk. They are, therefore, not to be recommended as a proper food for infants, because of the great excess of casein over the fat. The only one here mentioned which appears not to have been skimmed is not as economical as cow's milk, and the only claim it can present for its popularity is its keeping qualities."

IMMUNITY PRODUCED BY LIQUIDS IN WHICH INFECTIVE BACTERIA HAVE GROWN.

Dr. L. C. Wooldridge has made an experimental study of this question with fibrinogen solutions prepared from the thymus gland of calves and from the testis of bulls, in which anthrax bacilli have grown. He regards this solution as more nearly representing the soil in which pathogenic microbes normally develop, than the usual culture media.

After boiling, this solution retains, to a slight degree, the peculiar blood coagulating properties of normal fibrinogen.

Dr. Wooldridge summarizes the results obtained, as follows:

1. "*When a definite growth of anthrax has taken place in the fibrinogen solution, the latter is filtered off from the growth, and about 20 to 30 c.c. (3 v. to 3 viii.) of the filtrate is injected into the jugular vein of a rabbit. This causes no ill symptoms in the rabbit, but protects the animal from an immediate and from subsequent inoculations with anthrax.*"

2. "*Solutions of fibrinogen, either from testis or from thymus, which have been treated in exactly the same way as the culture fluids described above, but which have not been inoculated with anthrax, do not protect rabbits when injected in like quantity into the jugular vein.*"

He is of the opinion that the anthrax bacillus induces a special change in the chemical character of the fibrinogen, and that it is this modified proteid which effects the protection. (Report of Medical Officer of Local Government Board, Great Britain, 1886, pp. 421.)

TYPHOID FEVER FROM WELL WATER.

Dr. H. McColl of Lapeer, Michigan, describes (*Sanitary Era*, Nov. 15, 1887,) the history of an outbreak of enteric fever, which clearly shows the necessity for the disinfection of the stools from such patients. The first case was that of a young man who returned from the South to his home, sick with the fever, about September 1, 1887. No care was exercised with the stools, which were thrown into a privy vault in the rear of the house, and in close proximity to the well. About the 7th or 8th, a copious rain fell, and thoroughly soaked the sandy soil. On the 14th, the father, mother, and brother of the first patient were attacked with severe typhoid fever. About two weeks later his wife and child were attacked; also a child living on the opposite side of the street, which had occasionally partaken of the water of the well. About the same time there were three cases occurred in another family, who also used water from the same well. Three other cases occurred in the mill-hands who used the water of this well for a few days only.

On beginning a thorough disinfection of the stools, and discontinuing the use of the water of the well, no other cases developed. None of those who cared for these cases took the disease. Two out of the ten cases proved fatal.

TYPHOID FEVER FROM MILK, DUE TO ABSCESS OF UDDER.

A very curious epidemic, resembling typhoid fever, broke out on Washington Heights, New York, a few years ago. An examination of the case revealed the fact that the disease was confined to the customers of a certain milkman. On careful inspection of the cows of this dairy, one of them was found to be suffering from a loathesome abscess of the udder. At the time the examination was made, this cow was being milked into the common pail.

Although the investigation was very thoroughly conducted, no cause could be found until the cow with the abscess had been quarantined, when the sickness speedily stopped. (Dr. Edson in *The Forum*.)

TO DETECT TRICHINÆ IN MEAT.

The following method of searching for these parasites is said to be rapid and certain. Portions of the muscles to be examined are scraped with a dull knife, to separate the muscular fibre from the connective tissue as completely as possible. The meat pulp thus obtained is suspended in an artificial gastric juice made with pepsin and dilute hydrochloric acid. The vessel is kept in a warm place for a few hours, or until most of the meat is dissolved. This process of artificial digestion liberates the parasites, which fall to the bottom of the vessel and may be drawn off and examined with the microscope. The advantages of this method will be seen at once. It enables the observer to examine a large quantity of the muscle in each case, and with great ease. By this method a large number of examinations may be made in a short time.—*Exchange*.

CORRESPONDENCE.

THE PROPHYLACTIC TREATMENT OF DIPHTHERIA.

TRENTON, N. J., January 15, 1888.

To the Editorial Committee of THE BROOKLYN MEDICAL JOURNAL :

My idea of the prophylactic treatment of diphtheria is based upon the belief that the invasion is local before constitutional, and that both locally and constitutionally we are able to inhibit the development of the micro-phyte or restrain it. I believe that several substances will do this, but my plan has been this : Let a case just have developed and taking the age of 12 as a basis, I would use the following treatment: Two grains of quinine given each morning so that the solution gets on the throat ; then two drops of tinct. ferri chloridi with two grains of potassium chlorate dissolved in it and just enough water for swallowing, given every three hours. Give it also the last thing on going to bed and on awakening. I am careful to use Squibb's ; when I see a case in a family after it has been progressing so that *exposure to the contagion has been longer*, I give somewhat larger doses every two hours and the quinine morning and night. I would be exceedingly glad if you could induce a half dozen others to do this, taking careful note as to whether all the family has been exposed before one case in the family occurred, and if not, how long after the first case began, the prophylactic treatment was begun. My judgment rests upon a good many cases and repeated trials.

Truly yours,

E. M. HUNT.

HOW SHALL VEGETABLES BE COOKED SO AS TO RETAIN THEIR SALTS?

To the Editorial Committee of THE BROOKLYN MEDICAL JOURNAL :

I was much interested and instructed in reading the paper of Dr. McCorkle on "Certain foods in relation to treatment," which appeared in the January Number of the JOURNAL. There is one statement, however, which, if the Doctor will explain more fully, will, I am sure, be of great benefit to nurses in preparing food for the invalid, and to housekeepers, myself among the number, in preparing the daily food of those who are well. As the Doctor says we wish to retain the vegetable salts which are so requisite to the bodily needs, but the practical question is, how shall this be done? How can vegetables be prepared so that they may not be robbed of these nutritious substances? On this point I fail to find any information in the paper. In speaking of cabbage the Doctor says, "The un-

cooked leaf is easy of digestion, and an excellent and very palatable article of food, but the well cooked cabbage is an abomination. And what is true of cabbage is equally true of carrots, turnips, cauliflower, peas, beans, and many other vegetables in common use."

Now if this statement means anything it means that turnips, peas, beans, etc., are easy of digestion in an uncooked state, and that in this condition they should be eaten, unless, indeed, we would convert them into an "abomination." This may be true, but as I have never tried it I can not speak from experience, except with regard to the turnip, which when a girl living in the country, I have occasionally eaten raw, but always with heart-burn as a result. Peas and beans are, according to my idea, never well-served unless some or all of the potage in which they are cooked is served with them, but how shall we serve such vegetables as cauliflower, carrot, turnips, parsnips, corn, etc., so as to preserve the vegetable salts?

I fully agree with the Doctor that "the subject of cookery claims attention," and am conscious that ignorance on the part of the head of the household, the *cooking head*, covers many unwholesome dishes. I do not ask the Doctor to write a book on cookery, but there must be some scientific method of cooking vegetables so as to retain their salts, and if he will explain this method in a few words he will enlighten many, and no one more than

A HOUSEKEEPER.

MISCELLANEOUS.

ASSOCIATION OF THE ALUMNI OF LONG ISLAND COLLEGE HOSPITAL.

The Annual Meeting of the Association will be held on Wednesday, March 7th, 1888, at 3 P. M., for the transaction of scientific and routine business.

On Thursday, March 8th, the day following that of the Annual Meeting, the Annual Dinner will take place at Remsen Hall, cor. Court and Remsen Streets at 7 P. M.

Alumni will please notice the change from the usual date of holding the Annual Meeting.

The Annual Commencement of the College will take place on Friday evening, March 9th, at the Academy of Music. The address will be given by the Rev. T. DeWitt Talmage D. D., and the Valedictory by George W. White, of the Graduating Class.

BOOKS RECEIVED.

A Practical Treatise on Diseases of the Skin, by John V. Shoemaker, A.M., M.D. D. Appleton & Co., New York, 1888.

The New York Medical Journal Visiting-List and Complete Pocket Account-Book. Prepared by Charles H. Shears, A.M., M.D. D. Appleton & Co., publishers. Price, \$1.25.

THE BROOKLYN MEDICAL JOURNAL.

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VOL. I. BROOKLYN, N. Y., MARCH, 1888. No. 3.

ORIGINAL ARTICLES.

HEART AND BLOOD VESSELS IN THE YOUNG.

BY A. JACOBI, M.D., NEW YORK.

Address before the Association of the Alumni of the Long Island College Hospital, February 27, 1888.

The blood of the advanced fœtus and newly born is more concentrated than that of the mother. It contains mainly more hæmoglobin; therefore, according to the simple rules of osmosis, a surplus will pass from the maternal vessels of the placenta to the fœtal. These, when entering the fœtus, will leave some of the blood introduced and required for the development of the fœtus in its tissues. Thus it is certain that the two umbilical arteries cannot export so much blood as the single vein imports.

The hæmoglobulin of the blood contained in the umbilical artery amounts to 22.2 per cent. of the whole quantity of solid constituents, while in the venous blood of the mother it is but 13.99 per cent. The first to prove this high percentage was Denis, who found in 1830 the correct proportions by determining the quantity of iron contained in the blood.

No less is the blood of the newly born different from that of the

adult and even the infant. Poggiale studied hæmoglobin in the new-born and the full grown dog, and found 16.5 in the solid constituents of the blood of the former compared with 12.6 per cent. in that of the latter. Wiskeman's results are similar. It is only in advancing age that the hæmoglobin which rapidly diminished in infancy, begins to increase again, but it does so slowly. In calves and oxen the proportion is 11.13:13.21 per cent. Denis found it diminishing until the age of six months, and increasing slowly up to the thirtieth year. Leichtenstern found the following proportions: If the blood of the newly born contain hæmoglobin 100, that of a child of from six months to five years contains 55; of from five to fifteen years, 58; between the ages of fifteen to twenty-five, 64; from twenty-five to forty-five, 72; from forty-five to sixty, 63. (Subotin also found less in young animals than in old ones; also less when the amount of nitrogenous food was diminished.) The percentage of hæmoglobin decreases mostly in the very first two weeks. It is lowest at the age of from six months to six years; after that time a slow increase is taking place. But even in the very vigor of life, in the third and fourth decades, the percentage of hæmoglobin is smaller than in the newly born.

There are some more differences, depending on age, in the composition of the blood, more or less essential. The fetal blood and that of the newly born contain but little fibrin, but vigorous respiration works great changes in that respect. Nasse found the blood of young animals to coagulate but slowly. How this is in the infant, cannot be determined until more and better observations will have been made. It has struck me, however, in many instances of cerebral apoplexy of the newly born that the time for coagulation of the blood must be longer than in adult; for the hæmorrhages are apt to be most extensive in the infant. In the sanguineous tumor, kephalhæmatoma, of the newly born, the blood remains liquid in the sac for many days, and not uncommonly will, in apoplexy, spread all over the hemispheres, have plenty of time to perforate and penetrate the pia in all directions, destroy most of the cerebral tissue, and flow down the spinal cavity. These occurrences are so frequent in the infant, and so rare in the apoplectic adult, that they can hardly be explained except through the insufficient coagulability of the fetal and infant blood.

There are less salts in the blood of the young, and, according to Moleschott, more leucocytes. Its specific gravity in the young is 1045-1049; in the adult, 1055. At the same time it is important to recollect that the total amount of the blood contained in the newly born is smaller in proportion than in the adult, the relation of its weight to the total weight of the body being in the former, 1:19.5; in the latter, 1:13.

The brief results of the above statements are as follows: The young infant (and child) has less blood in proportion to its entire weight: this blood has less fibrin, less salts, less hæmoglobin (except the newly born), less soluble albumen, less specific gravity, and more white blood corpuscles than the blood of advanced age. While these facts may require a few considerations later on, a single remark may be bestowed on one of the results of an undue amount of blood in the circulation of the newly born.

Weber and Hewitt look for the explanation of many cases of icterus in the newly born in the condition of the hepatic circulation. When the lungs are in a more or less atelectatic condition, the liver is in a state of passive congestion. Then the dilated vessels compress the biliary ducts. The same result, that is, jaundice in the newly born, is accomplished by an overdue amount of blood in the general circulation. When the mass of blood circulating in the newly born has been increased by pressing out the placenta, and applying the ligature late, jaundice will follow.

The function of the heart begins in the third week after conception. Its beats are very irregular at first, become soon regular, but remain very frequent until birth. As late as 1822, a surgeon of Geneva, Switzerland, Mayor, utilized the knowledge previously obtained, of the existence and audibility of foetal heart beats for a practical purpose. Until that year no obstetrician knew whether the foetus during parturition was still alive or already dead, and the indications for accelerating delivery because of danger to the foetal life did not exist. At a later period, it was Frankenhäuser who tried to predict the sex of the infant by counting the number of the foetal heart beats before birth, or rather before labor pain had commenced. He believed to have found that a foetal pulse, when nearer 124 than 144 in a minute, belonged to a male child, and *vice versa*. I fully believe he was not so often mistaken, as his successors assumed. In a great many cases his experience holds good, but the examination must be made before labor sets in, and in an afebrile condition of the mother. I know that when I still attended a great many obstetrical cases, many years ago, I was seldom mistaken in the prediction, based on Frankenhäuser's principle, of the sex of the child, provided I did not make my examination when the pulse was disturbed by causes due to changes in either the foetus or mother.

The absolute weight of the heart, at different ages, has been studied by many observers, mostly by Boyd, who published his investigations in 1861. They refer to 1,007 males and 1,038 females in Marylebone Infirmary, and 295 males and 233 females in the Insane Asylum of Somerset, and extend over the nine years from 1839 to 1847.

The weights of the heart are, mostly according to Boyd :

In the new-born,	-	-	-	20.6 grammes.
1½ years,	-	-	-	44.5 “
3 “	-	-	-	60.2 “
5½ “	-	-	-	72.8 “
10½ “	-	-	-	122.6 “
17 “	-	-	-	233.7 “
24.5 “	-	-	-	277.6 “
35 “	-	-	-	302.9 “
41-50 “	-	-	-	303.0 “
51-60 “	-	-	-	316.6 “
61-70 “	-	-	-	331.8 “
71-80 “	-	-	-	320.8 “
81 “	-	-	-	303.5 “

Thus the proportion of the weight of the heart to that of the body exhibits no extraordinary differences in the several ages; and the mechanical labor required to supply the body, or any part of it, with blood is therefore about the same in the young or old. Still there are differences. The yearly increase of the weight of the heart is largest in the first few years during the most intense growth, a little less about the fourth and fifth years, and again larger about the period of puberty. After this time the annual increase becomes smaller, still it continues until the time of senility. The absolute weight increases until the seventieth or eightieth years, after which it decreases a little, always provided that the atheromatous changes in the arteries, which occur more or less normally about and after the fortieth years, are not of such an importance as to result in hypertrophy of the heart.

Though the limited time at my disposal cannot permit me to refer extensively to the literature of the subject, my account would be quite incomplete if I did not allude to at least a single book which, by its immense material and careful sifting, has vastly added to our knowledge. I speak of W. Müller's treatise on "The Proportions of the Volume of the Human Heart," 1883. From the large amount of information contained on its 220 pages, I give a few points full of suggestions.

The absolute and proportionate weight of the heart of the embryo is very great. As soon as the extensive circulation of the allantois ceases, the heart of the embryo increases rapidly. It has not only to supply the growth of the body to which it belongs, but also the cord and placenta. Thus the increase in weight of the heart is mainly perceptible in the first half of embryonic life without any difference as to sex. The latter does not show its influence before the completion of

the fifth year. Though, however, the increase of the heart is mainly noticeable in the earlier months of embryonic existence, it is quite marked in the later period also, for it is at this time that the permanent organs of the body come in with their claims on circulation and nutrition. Thus the proportion of the heart to the rest of the body is largest about the time of birth, remains stationary for a little while, and takes a new start about the end of the second or during the third month with the greater extent of the surface of the infant body. The increase in weight is mainly confined to the ventricles, for the auricles lose in proportion to the ventricles up to the period of completed development of the adolescent. At that time the auricles begin to increase noticeably. Still, though the relative weight may diminish, their absolute weight is growing constantly during life. In the embryo it is the muscular mass of the right auricle which predominates over the left. From the beginning of the second month after birth, and during the whole of the first year, the right and left auricles are equal. After that time the right auricle continues to outrank the left, so that during and after puberty its weight is larger by 5.5 per cent. The right ventricle is extremely active during its embryonic development, because of the existence of the placental circulation, the accumulation of large quantities of blood, and the patency of the foramen ovale through which large amounts of blood are repelled into the right heart. The equality of both auricles during infant life is due to the absence of great muscular exertions, and the renewed increase of the right auricle during later life to the effect of muscular action on the distribution of the blood.

The proportion of the size and weight of the heart to the body at large is about the same in the later months of the foetus and the earlier of the infant. But the relations of the right and left ventricles to each other become greatly altered immediately after birth. This change is very marked during the first two weeks. Its cause is evident. It is true the heart is relieved in the moment of birth of its placental circulation, and by the large amount of blood aspirated by the lungs which begin their life-long work; but this relief—which remains permanent for the right ventricle—is outbalanced for the left ventricle by the organs of the body, whose claims on the action of the heart are either increased—thus intestines and the large glands, also the kidneys and nervous system—or entirely new, like the skin with its new function of radiation, and the respiratory organs with their rhythmical motion. The effect on the function of the left ventricle, and its increase in size, becomes particularly great when the involution of the ductus arteriosus Botalli has become perfect after the first month. The relation between the right ventricle and the left becomes permanent about the time of

erect walking. At that time, and later, and without difference as to sex, the proportions of the former to the latter is as 507 to 1,000; that means the right ventricle has half the weight of the left.

What I said of the predominance of the right heart over the left during fetal life, a predominance which is the result of the right heart being the principal motor in fetal circulation, gives the simple clue to the fact that its physiological action is liable to become pathological. The large majority of fetal diseases of the heart are met with in the right auricle and ventricle. It is only after birth, and mainly in advancing years, when the physiological predominance of the left heart has become established that in it cardiac disorders are almost exclusively found.

The normal proportion of the weight of the right and left heart—507 : 1,000—is disturbed by such morbid conditions only, which terminate in unilateral or bilateral actual hypertrophy. This is by no means rare in children; for acute endocarditis and acquired valvular diseases are with them quite frequent. If, in your experience, it has struck you that they are often encountered about the fifth year, I beg you will remember that this is exactly the time in which the growth of the child's heart has become temporarily less, and the disproportion between its size and the claims to be satisfied—that is, the necessities of circulation and nutrition—are quite as urgent as before.

However, the temptation to make the diagnosis of cardiac hypertrophy is still greater than its actual occurrence; for the heart's dullness is liable to be extensive under normal circumstances.

In twelve healthy children of from three to eight years, Gerhardt found the cardiac dullness almost as large as in adults; that is, longitudinally, along the margin of the sternum, $4\frac{1}{2}$ centimetres; transversely, 5 centimetres. Dullness commenced about the third or fourth rib, its height equalled half the length of the sternum; the impulse was often found beyond the mamillary line, and not infrequently in the fourth intercostal space, for the diaphragm stands higher in children than in adults. Thus the absolute cardiac dullness is proportionately larger and higher, the reverse of what is found in old age. This is most perceptible about the sternum. Along its right margin the cardiac dullness is very much more marked in children than in adults. Its location is changed by turning the child on its side, but not by its sitting up or lying down. It is particularly the inferior margin of the dullness which is not altered by changes of posture.

Abnormal shapes of the thorax are frequent causes of increased dullness. As soon as the shape of the chest ceases to be elliptical, and becomes quadrangular or triangular in consequence of previous pleuritic adhesions or rachitic deformity, the heart touches a level surface

instead of an arch, its dullness is apt to give the impression of enlargement, and its more distinct impulse that of hypertrophy.

Diminution or complete absence of cardiac dullness in its normal location is found in different conditions : when the heart is congenitally situated in the right half of the chest ; when there is, on the left side, pneumothorax with enlargement of thoracic cavity and changes in the location of neighboring organs ; in emphysema ; in pneumopericardium.

Though I am not permitted, in the limited time at my disposal, to lose myself in the consideration of pathological subjects, I still believe that the allusion to a few anatomical differences in the heart of early infancy and more advanced age has been found acceptable. Such differences are, however, not confined to the heart ; the blood vessels share in the peculiarities which render the study of the fœtus, infant, and child so interesting. It is in the observation of gradual development, and the kaleidoscopic changes of lively growth, wherein lies the greatest fascination.

Quite an abnormal position is reserved by nature to the blood vessels connecting the mother and fœtus in the umbilical cord. They are two arteries and one vein. The former are the continuations of the two hypogastric arteries which ascend—along the urinary bladder—to the anterior abdominal wall, in the loose connective tissue of which they finally reach the umbilical ring. The vein originates in the placenta, runs within the cord in spiral convolutions, passes the umbilical ring, attaches itself to the loose connective tissue of the anterior aspect of the ligamentum suspensorium, and thus reaches the hepatic region. Its two ramifications are, firstly, a branch which joins the portal vein and enters the liver, and, secondly, the ductus Arantii, which empties into the vena cava inferior.

The anatomical structure of these three blood vessels differs from that of all the rest of either arteries or veins. The umbilical arteries are thick and strong, both inside and outside the abdominal cavity ; particularly so in the proximity of the umbilicus. Inside the abdominal cavity they are more compact, and of a yellowish red color, outside softer and paler. Their muscular layers are mostly circular, some longitudinal. Where the latter are found, they are external to the former. The muscle extends to the adventitia ; its largest size it attains near the umbilicus, inside the abdominal cavity. In the cord the muscular layer of the arteries is very massive between adventitia and endothelia. There is *no elastic membrane and no intima*. Some elastic tissue is found near the umbilicus, it gradually increases in the abdominal cavity ; but the intima is not developed in the arteries until they are in close proximity to the iliac. Thus, by the massive and powerful

development of the muscular layer, it is explained why there are so few hæmorrhages though no ligature have been applied to the cord.

There are some other peculiarities about the umbilical arteries, viz : straight, oblique, or irregular prominences, which cannot be made to disappear by stretching, and contain what little elastic tissue is met with in this neighborhood. There are also dilatations of the lumen, which depend upon differences in the thickness of the walls, and longitudinal grooves resulting from occasional local diminution of the amount of muscular tissue. Valves there are none. These dilatations and grooves, however, have nothing to do with the contraction of the arteries, for after death they remain intact and are replete with blood. That contraction is the result of the rigor mortis of the muscular layer and the reflex action produced by the influence of the cooler temperature surrounding the newly-born. Beside these normal peculiarities, anomalies are also noticed. Three cases of inequal development of the umbilical arteries have been reported by Hausmann. In one of them one of the arteries was narrow and terminated inside the pelvis, behind the urinary bladder ; but the other, with its hypogastric artery, and even the common iliac, were considerably dilated.

The umbilical vein differs from the arteries very much less than is usual with veins and arteries in any other parts of the body. The muscular layer is very large and strong in the vein. There is *no intima*. None of the three vessels emits branches ; there are *no vasa vasorum* and *no nerves* in their walls.

To this marked simplicity of the vessels there is but one exception, viz., in the neighborhood of and round the navel. Some arterial vessels starting from the anterior abdominal wall, bladder, and liver, form a circular anastomosis, known by the name of *circulus arteriosus umbilicalis*. It is located in the subperitoneal connective tissue and distributed over the adventitia of the intra-abdominal portion of the umbilical arteries. Other branches penetrate the ring and *linea alba*, send their capillaries to the subcutaneous connective tissue of the umbilicus, and form a fine vascular circle round the umbilicus as far as the starting point of the amnion.*

It is not surprising that blood vessels which have but temporary functions ending with the termination of intra-uterine life should exhibit a structure as different from that of the rest of the blood vessels as their functions are unique. But the facts are not more interesting than those connected with the structure and functions of infantile vessels when compared with those of adults.

* A. Jacobi, in Gerhardt's Handb. d. Kinderk., 2d ed., I. 2, p. 21, 1832. Strawinsky, the same, I. 1, p. 298.

E. Hofmann* discovered the peculiar fact that the arterial pressure is very small in the newly born animal. It is but 90 mm. in the newly born dog and cannot be raised to more than 160 mm. by suffocation. In the grown dog it amounts to 160 or 180 under ordinary circumstances. Even as large arteries as the carotid, when cut, do not spurt as in the adult. This is another reason why cords not ligated will often not bleed, with the exception of those cases in which the arterial pressure is increased by a moderate degree of asphyxia, or the lungs are not inflated in consequence of incomplete development of the muscular strength in the prematurely born foetus.

According to a number of actual observations made by R. Thoma, the post-foetal growth is relatively smallest in the common carotid, and largest in the renal and femoral arteries. Between these two extremes there are found the subclavian, aorta, and pulmonary arteries. These are differences which correspond with the differences in the growth of the several parts of the body supplied by those blood vessels. In regard to the renal artery and the kidney, it has been found that the transverse section of the former grows more rapidly than the volume and weight of the latter. Thus it ought to be expected, that congestive and inflammatory processes in the renal tissue were almost predestined by this disproportion between the size of the artery and the condition of the tissue. Moreover, the resistance to the arterial current offered by the kidney substance depends also upon the readiness with which the current is permitted to pass the capillaries. Now it has been found experimentally, that their permeability is greater, and that within a given time more water proportionately can be squeezed through them, in the adult, than in the child. This anatomical difference may therefore be the reason why renal diseases are so much more frequent in infancy and childhood from all causes, with the exception of that one which is reserved for the last decades of natural life, viz., atheromatous degeneration.

The blood vessels will, however, not exhibit this stationary proportion under all circumstances. In certain constitutional disorders the proportion of heart and blood vessels is found very much changed. As it is not probable that a chronic disorder in its slow progress should work a rapid change in the blood vessels, the inference is a sound one, that, if the disorder cannot have altered the blood vessels, these must have given rise to, or be connected with, the nature of the disorder. For instance, in rhachitis, the heart is of average size, but the arteries are abnormally large. Great width of arteries lowers blood pressure. Thus is best explained the murmur first discovered by Fisher, of Boston, over the open fontanelles of rhachitical babies, very much better

* Oesterr. Jahrb. f. Päd., 1877, p. 189.

indeed than, as Jurasz asserts, by osseous anomalies in the carotid canal. Another result of the low blood pressure is the retardation of the circulation in the muscles, with flabbiness and incompetency as consequences, and still more about the epiphyses which swell and soften. It is very much less the cartilaginous condition of the epiphyses which gives rise to rhachitis, (for some of them do not ossify before the twentieth year or later, at a time when no rhachitis is observed) than some constitutional disorders, of which the principal one may be, as stated, the unusual size of the blood vessels. There are other anomalies in rhachitis which aid in the retardation of circulation, viz., the large size of the liver and the smallness of the lungs. Through all of these sources ossification becomes defective and irregular, the epiphyses exhibit sponge-like softness and hyperæmia first, and hardening, s. c. eburneation of the rhachitical epiphyses afterwards. The latter is a natural consequence of the slow circulation, which results in a local escape of carbonic acid and thereby to a mechanical deposit of phosphate of lime previously kept in solution.

The condition which has been called scrofula exhibits a different condition of the heart. The normal relation of the weight of the heart to that of the lungs, between the second and twentieth year, is 1:5-7; in scrofula it is 1:8-10. That means, the heart is smaller than normal. This circumstance, coupled with an acquired debility of the nervous system, results in an insufficient supply of blood to the lungs, and to the whole body, in defective oxygenization, in œdematous deposits, in general ill-nutrition, and peculiar tendency to disintegration of the tissue of mucous membranes, bones and the skin, mainly in those cases which have been called torpid scrofula by common consent. It is in the latter form in which, by virtue of insufficient circulation, the lymphatic system pre-eminently participates. This is the more important, as the size, patency and number of lymphatics are very great in infancy. Sappey found that they could be more easily injected in the child than in the adult, and the intercommunication between them and the general system is more marked at that, than any other period of life.* These facts have been confirmed by S. L. Schenik who, moreover, found the network of the lymphatics even in the skin of the newly born endowed with open stomata, through which the lymphducts can communicate with the neighboring tissue and cells.

It is not necessary, however, to look for *abnormal* constitutional conditions as the results or accompaniments of altered blood vessels. Under normal circumstances, both the length of arteries and their width will change in different periods of life. The common carotid

* Thus the greater tendency during early age to constitutional symptoms in diphtheria, for instance, is easily explained. A Jacobi, Treatise on Diphtheria, p. 31.

has, in the newly born, half the length of the descending aorta, but very much less in more advanced age when the vertebral column increases in length. In other parts of the body the development of arteries proceeds inequally, thus the superior thyroid bends downward to a considerable extent about the period of puberty, while the larynx is becoming larger and the thyroid gland descending. The thoracic also descends from the upper end of the dorsal vertebral column, and the superior intercostal arteries become steeper. All the large arteries are getting enlarged after birth until the twentieth year, after that period the increase is slow, but does not cease altogether before the latest decade of life. Even the veins change considerably in their anatomical structure. There are a hundred valves in the veins of the lower extremities of the newly born, which disappear readily afterwards, though there may be no anomalous retardation of the venous circulation.

The width of the arteries does not depend on their congenital predisposition only, but also on the degree of blood pressure resulting from changes in the heart. A large or hypertrophied heart increases the size of the arteries; aortic or mitral incompetency renders them gradually smaller. On the other hand, undersize of the arteries produces a hypertrophy of the heart and lowers the circulation and blood pressure, together with insufficient nutrition in the periphery to such an extent as to produce hæmophilia, purpura, or gastric ulcerations in the chlorotic. Still, there are congenital cases in which the abdominal viscera are found perfectly normal when the abdominal arteries are considerably narrower than normal.*

Abnormal smallness of the arteries has attracted the attention of many observers. Lanceraux† describes an aorta which was thin, yellowish and fatty, and had a circumference of only five or six centimetres. Long before him, however, Morgagni and Meckel observed a deficient development of heart and aorta, and Rokitsky‡ found at the same time smallness of the heart, arteries, sexual organs, and body, which he does not look upon as atrophy, but as original hypoplasia, but does not connect with chlorosis. Bamberger§ speaks of small arteries not interfering with the size of the body, but resulting in chlorosis without or with hæmorrhages. Virchow, who has studied the influence of undersized arteries with greater results than anybody, found no constant relation between them, the condition of the body, and the presence or absence of hæmorrhages. The latter have been noticed by Trousseau, who describes the hæmorrhagic form of chlorosis. Virchow found that smallness of arteries may leave the rest of the body now and then intact, and the sexual organs sometimes fully

* G. Fleischmann, Autopsies, 1815.

† Path. Anat. II., p. 842.

‡ I., p. 558; II. 418, 585.

§ Dis. of the Heart, 1857, p. 346.

developed with chlorosis and profuse menstrual flows, sometimes, however, of insufficient development. In that case small ovaries and uterus are combined with chlorosis.

The worst forms of the latter conditions have been found by Virchow, and others since, to depend mainly on the smallness of arteries, no matter whether the heart is also small or of normal or large size. The latter condition may be either congenital or acquired, and depend on either genuine hypertrophy or fatty degeneration. In the latter case the heart is flabby and of loose structure. In all these cases chlorosis may make its appearance very early and independently of sexual life, for Becquerel has the case of a chlorotic child, six years of age, and others which developed after confinement. Or it may exhibit its symptoms about the usual time, and prove incurable through all life because of the permanence of the congenital insufficiency of the blood vessels.

Seé (*Leçons de Pathologie Experimentale. Du Sang et des Anémies*. Paris, 1867, p. 256,) speaks of hereditary and constitutional chlorosis. Heredity of chlorosis, in either sex, may not show itself at birth. Though not congenital, it may appear between the first few months and the second dentition. After it has been once developed, it clings to the patient through normal and morbid conditions, as an integral part of the general constitution. This hereditary chlorosis is often perceived in the male, from infancy to adult age. In a family in which both grandmother and mother were eminently chlorotic, he observed a girl and two boys, who grew pale in the first few months and long preserved a well-marked discoloration, with functional murmur and all the symptoms of chloro-anæmia. Still, all the time a certain amount of strength and adiposity remained. Bouillaud called such cases of chlorosis constitutional ailments, and Trousseau pronounced them mostly incurable.

Still more dangerous conditions may depend upon congenital smallness of the arteries. I have in my possession pieces of the large arteries, of uncommonly small circumference, and the heart of a little more than normal size and in granular degeneration, that were taken from the body of a lady who died at the age of thirty-two years. She had always been anæmic, suffered from fainting spells during menstruation, which was sometimes interrupted for many weeks, and all the symptoms of thorough anæmia all her lifetime; and finally died, with the diagnosis confirmed by medical men of the highest professional standing, of pernicious "essential" anæmia in consequence of a moderate intestinal catarrh.

Normal growth of the body and its organs depends on active blood supply and vigorous circulation. The presence of blood with but little propelling power may give rise to swelling and congestion and nutritive

disorders, such as rachitical epiphysitis, but not to healthy increase and function. The size and vigor of the newly born heart offers a ready explanation for the rapid growth of the infant body, and mainly those organs which are in the most direct communication with the heart by straight and fairly large blood vessels. In this condition are the head and brain. Thus the latter has an opportunity to grow from 400 grammes to 800 in one year; after that period its growth becomes less marked. At seven, boys have brains of 1,100; girls, of 1,000 grammes. In more advanced life its weight is relatively less, 1,424 in the male and 1,272 in the female. At the same early period the whole body grows in both length and weight. The original length of 50 centimetres of the newly born increases to 110 with the seventh year, the greatest increase after that time amounts to 60 (in the female 50) centimetres only. In the same time the weight increases from 3.2 kilo. to 20.16 in the boy, from 2.9 to 18.45 in the girl. That gives a proportion of 1 to 6 or 7, while after that time the increase is but three or four fold.

As I have stated, the large blood vessels do not grow equally. At first, the pulmonary artery is from two to four centimetres larger than the ascending aorta. That means for the lungs more active work, but also more tendency to disease, particularly as, since the closure of the ductus Botalli, the aorta which gives off the bronchial arteries, assumes considerable proportions within a short time.

The labor required of both heart and lungs is greater than in the adult; thus fatigue is more easily experienced, and the necessity of sleep, the interruption or absence of which adds to exhaustion and waste, is readily explained. More physiological work is done by these two organs, and, moreover, in a manner somewhat different from what we notice in those fully developed. In these, nothing is required but the substance, or rather constant reproduction of the bulk of the body; in the child, not only reproduction, but a new development of tissues must go on, and perpetual growth. And all this has to be accomplished at the expense of a blood, which, after having been drained of its surplus of solid constituents immediately after life, contains less solid constituents than the blood of the old. Thus the normal oligæmia of the child is in constant danger of increasing from normal physiological processes. The work before a baby has to be performed with, so to speak, a scarcely sufficient capital. The slightest mishap reduces the equilibrium between that capital and the labor to be performed, and the chances for the diminution of the amount of blood in possession of the child are very frequent indeed.

Thus, the vulnerability of the young being great, and diseases in early infancy and childhood so very frequent, cases of anæmia are met

with in every day's practice, and in every form, complicated and uncomplicated, with great emaciation or without it, and either curable or not.

The slowness of the circulation and its insufficiency in all cases where the normal relation between heart and blood vessels is disturbed, as for instance, in rhachitis and the watery condition of the blood, are apt to give rise to catarrh of the pharynx and larynx and the respiratory organs in general. Besides, the walls of the blood vessels are known to suffer in anæmia. They become thin, and undergo fatty degeneration, which Ponfick has found in the heart, and in the intima of the larger blood vessels and in the capillaries. In consequence of the thinness of the blood and the changed condition of the blood vessels, serous transudation, and, now and then, extravasations will take place. The same occurrence is noticed in the adult in conditions of anæmia. It not infrequently occurs that those who have least blood, lose it most easily. Anæmic women are very apt to have copious menstruation, and when their general condition has been improved, both blood and blood vessels resist this tendency to hæmorrhage.

Hæmorrhages, again, result in anæmia in a number of instances. They are of different character and importance. There is true melæna; umbilical hæmorrhage; hæmophilia; primary or secondary purpura; internal hæmorrhages of the newly born; cephalhæmatoma; hæmorrhages from rectal polypi; epistaxis depending on coryza; epistaxis at a more advanced age from heart disease and abdominal stagnation; hæmorrhages in diphtheritic angina; and such as take place during or in consequence of operations for hare-lip or ritual circumcision. Death may result from many of them, such as melæna, hæmophilia, pharyngeal hæmorrhages, or circumcision; others are of but little gravity, such as the sanguineous tumor of the newly born; others are apt to result in permanent ailing. As a rule, however, an acute anæmia is more easily overcome than one that is of a more chronic nature, and thereby undermines the vitality and strength of the organs while it slowly robs them of their nutriment. Infants who are thus stricken recover but slowly or not at all. Young animals resist starvation to a less degree than old ones. A dog of two days bore starvation in Magendie's laboratory but two days; a dog of six years, thirty. Similar results were obtained by Chossat in his experiments on pigeons. Thoroughly anæmic and delicate babies seldom recover entirely, like starving young animals which never attained their normal condition though they were carefully fed afterward.

Even in such instances, however, murmurs in the jugular veins are not very frequent in infancy and early childhood. Murmurs in the carotids and over the large fontanelles, however, are by no means rare.

It is not true that these murmurs, audible over the brain, belong to rachitis only. They are found in every condition in which the blood pressure in the large arteries of the cranial cavity is lessened.

The heart itself exhibits functional murmurs but seldom. Whenever there are murmurs present, it is safer to attribute them to organic disease rather than to merely functional disorder. In most cases it is not difficult, with the restrictions detailed before, to diagnosticate the consecutive hypertrophy. Besides, it is now well known that acquired endocarditis is by no means rare, and, moreover, that it occurs even more frequently; for acute articular rheumatism is by no means infrequent in the infant and child. Although the brain be not so liable to suffer from emaciation, dependent upon anæmia, as other organs, still there are a number of cases in which headaches, attacks of syncope, sleepiness, etc., or, on the contrary, sleeplessness and hysterical attacks, are the result of anæmia alone, and disappear when this condition is relieved. Not a few of the babies and children who cry the greater part of the night have no other ailment besides general anæmia, and such children are frequently relieved by a meal or some stimulant before they are put to bed, or given during the interruption of their sleep. The pulse of such children is sometimes very much accelerated; sometimes, however, it is slow, and sometimes irregular. I have known such children, in whom for months, and occasionally for years, I have feared the development of cerebral affections from the very fact that their pulse was both slow and weak and irregular; and yet, when their general condition was improved, both the regularity and the frequency of the pulse were increased.

It is this class of cases which is so frequently neglected by both parents and physicians. If this condition of anæmia and ill-nutrition be allowed to continue, the first attack of an acute febrile or infectious disease will extinguish the light that never burned brightly. What might have been done to avert that calamity, is the question we propose to ourselves when it is too late. There are many indications, of which I mention but one. As the greatest labor of living has to be performed by the heart, which is suffering from ill-nutrition more than the rest of the body because of the hard and constant work to be performed, let the heart be stimulated and strengthened while you attend to the rest of the indications; for the heart stimulants will not only whip the heart into action, they do very much more—they invigorate the circulation in the heart muscle and reinforce it, while they stimulate.

There are blood vessels so thin and incompletely developed, and integuments so poorly formed, that bleeding will now and then make its appearance spontaneously. I remember two such cases, particularly one in which blood would trickle from the surface of the lower

extremities like perspiration, in drops, day after day, until the baby died of exhaustion. That, in babies who die within the first week, or later even, the pericardium and pleura are covered with scores and hundreds of smaller or larger blood points, which give no rise to any prominent symptoms, is not at all uncommon. In all these cases the hæmorrhage need not be the result of a deterioration of the blood vessel tissue by constitutional diseases at all. Of the latter, however, it is principally hereditary syphilis which gives rise to such a hæmorrhagic diathesis. It is in these cases not so much an endocarditis which can be charged, as in advanced age, with the production of hæmorrhages, but the defective general tissue formation and the presence of gummata and white hepatization of the lungs.

Still, endocarditis and atheromatous degeneration are not unheard of in the young. Moutard Martin* reports the case of a boy who died of small-pox at the age of two years. At the autopsy there were found: pericarditis sicca, hypertrophy of the heart, and atheromatous deposits of a diameter of from two to five millimetres, about an inch below the origin of the aorta. Sanné, in an article on the aneurism of the aorta and atheromatous degeneration during infancy,† has four cases of aneurism from that cause, one in a fœtus, and three in children of two, ten, and thirteen years. I have in my possession the descending aorta of a girl who died, at the age of seven years, with an aneurism. After all, however, atheromatous degeneration in the young is but an exceptional occurrence. But ruptures of blood vessels are very frequent, the more so the younger the individual. Congenital thinness of the blood vessels, without atherosclerosis, is by no means rare; a certain grade is the rule. Voigtel refers also to a deficiency of original formation as a probable cause of aneurisms; Cruveilhier‡ refers to cirroid aneurisms as resulting from congenital thinness of the median layer, and says that now and then arteries and veins cannot be distinguished from each other. Virchow, as related before, explains the worst cases of lifelong chlorosis by the thin walls and narrow lumen of the arterial vessels. Klebs met with thin blood vessels in a dropsical baby that died when thirty-two weeks old. C. O. Weber reports congenital atrophy and weakness of the arterial walls. Balassa claims them as the causes of spontaneous aneurisms; so does Gull in a case of aneurism of the arteria cerebelli; and Dieulafoy describes the case of a girl of seventeen years, in which the cerebral hæmorrhage was due to miliary aneurisms resulting from hereditary predisposition.

As may be inferred from what has been said, the vascular debility may be of two kinds. It may be local, and then give rise to miliary or

* Bull. Soc. Anatom., 1875, p. 775.

† Revue Mens. fev., 1887.

‡ Traité, I., p. 735.

larger aneurism ; or it may be general, and exist while all the membranes constituting the wall are present.

In the arteries of medium and small calibre, the elastic membrane is a thin and simple membrane ; it is only in larger arteries that elastic fibres will also extend into and mix with the adjoining layers. The elastic membrane is particularly thin where the branches are given off from the arteries. It is here where spontaneous hæmorrhages are most apt to take place. It is here also where, in late life, aneurisms are found, such as find no ready explanation by an injury. Not only has the elastic membrane been found thin, but entirely, in such places, and there it is where Eppinger* looks for the seat of what he calls congenital aneurisms ; that is, those which, though they make their appearance in later life only, still owe their original source to that congenital anatomical defect.

From the physician's standpoint the combined action of the heart and arteries—the pulse—is particularly interesting.

The pulse of the infant and child offers a great many differences from that of the adult, both in frequency and volume. As already stated, the pulse of the foetus varies from 124 to 144 or 150 and more. Immediately after birth it is very much less frequent. Within an hour it assumes a certain regularity, and still the figures furnished by a large number of competent authors appear to prove the greatest difficulties in obtaining uniform results. From what I have observed, J. L. Smith is correct in fixing the number of heartbeats in a minute at 136, his lowest figure being 96, his highest 164. According to some, the average figure rises during the second half of the first month, and then proceeds slowly to decrease. From the first to the sixth month the pulse is 120 during sleep, 130 to 135 while awake. It is 100 at six years, 88 at thirteen, 72 in the adult. Tall children exhibit less frequency than short ones ; girls, after the fifth year, and more so about puberty, more than boys. The pulse is more rapid in the infant while awake, sitting up, or standing, than while asleep or lying down ; more in excitement, exercise, or fever. Thus it is difficult to arrive at a safe estimation of the frequency of the pulse in cases of sickness. In the radial artery it is sometimes impossible to obtain it ; the femoral or carotid is often more accessible, the basilar, through the open fontanelle, very much more so. When frequency alone is the object of examination, it is always better not to touch the baby at all. The beats of the fontanelle or the carotid can be distinguished and counted easily, up to a frequency of 240 a minute. But it is not always, or not only the frequency we wish to notice, but the character of the pulse. In the latter respect the young have their peculiarities. The expansion of the artery is very much more perceptible and prolonged than the contraction, and the rhythm is by no means

* Langenbeck's Arch., vol. iii., Suppl., 1887.

stationary. The pulse is very apt to be irregular, even during the regular respiration of sleep. The slightest deviation from the normal standard of health renders it slightly but perceptibly irregular; anæmia does the same, and either increases or diminishes its frequency. When the latter takes place, the differential diagnosis between anæmia and incipient meningitis, with its pneumogastric irritation, becomes quite difficult.

The examination of the pulse was, in the absence of the modern methods of diagnosing, which are liable to render us more exact, though less observing and circumspect, a source of study and instruction in ancient times. In Daremberg's "History of Medicine," Paris, 1879, I., p. 224, I find the following remarks quoted from two Greek authors on the pulse of the young. Rufus, of Ephesus, speaks of it as small, and yielding no perceptible difference between diastole and systole. Herophilus calls it "ἄλογος; that is, deprived of sense, or rules, or proportion. It is known to increase in volume with advancing age, and to accommodate itself to metric measurements. That of the newly born is pyrrhic, UU, two short beats; the child trochaic, — U, one long and one short beat, with three tempi, two of which belong to the diastole, one to the systole; the adult spondaic, — —, two long beats; senility iambic, U —, one short and one long beat. Such observations are more than merely interesting through their ingeniousness and poetical flavor; they are correct. It is too seldom that we modern men look for instruction and edification amongst our ancient or more recent predecessors; it is too often that we forget how much we could each of us learn directly from Hippocrates and Celsus, or Sydenham and Peter Frank.

Both the biologist and the practicing physician—I wish they were identical—are interested in the condition of the pulse of the young. Some of its anomalies I have alluded to before. To what extent it will guide us in our diagnosis of incipient meningeal disturbances, every practitioner has experienced many times. In normal children, after the fourth or fifth, certainly after the seventh year, the pulse is regular, rhythmical, and of equal strength. When there is irregularity in strength and rhythm, it proves impaired condition either of the heart or its innervation; and in connection with other symptoms, like those of Josef Hofmann, incipient neurasthenia and physical and intellectual dangers ahead.

In which way it may lead us to a rapid, at least preliminary, diagnosis of inflammatory lung diseases, has not appeared to me to be sufficiently appreciated. At least I find, in my daily rounds, that the proportion of pulse to respiration is not always watched. What I mean is this: the normal relation of heartbeats to the number of respirations

is 37 or 38 to 10. When this relation is dissolved, there is a reason for it. When the number of respirations is increased compared with the pulse, say ten to thirty, twenty-five, or even less, and particularly when the change took place rather suddenly, with fever and all the other signs of an acute disease, there is inflammation of the organs of respiration. Mistakes are very rare. They may be, it is true, the result of an occasional—though very uncommon—*actual* congestion with meningitis (I do not speak of the *secondary* meningitis of pneumonia). It may retard the pulse even in a pneumonia, as it does without it; or the mistake may be due to an old heart disease, or unusual degree of cardiac debility, which increases the pulse beyond expectation.

Here, Mr. President, I must finish my remarks. I am aware, and gratefully so, that you have consented to listen to them with forbearing patience, like kind hosts. They have been quite extensive, indeed too much so; but how fragmentary they were after all, struck me only when I felt they were too prolonged. Still, the subject is one of vast importance and great interest, though its discussion had to be curtailed. I might have drawn many more conclusions based upon the facts touched upon, evolved indications for treatments, and pointed out the way to remedy some of the evils alluded to, and their consequences. I had to omit this, I must say, rather unwillingly; for I do not belong to the class of those who look upon the *practice* of medicine as inferior to its study, as a trade, as a necessary evil, as a failure, or a placebo. On the contrary, I rejoice in knowing and learning more profoundly and feeling more keenly, from year to year, that there is no nobler aim for even the most abstruse study and abstract science, than their utilization in the service of mankind, and that every intellectual effort, every scientific gain, ought to and finally will, be ennobled by being made subservient to a practical end. That practical end for all investigations and studies of anatomical and physiological questions is the prevention and cure of disease. It is this combination of intellectual labor and practical result, undertaken and accomplished in the interest at the same time of scientific research, and the moral elevation and physical welfare of both the individual and the commonwealth, wherein lies the fascination of our professional calling. None understands and appreciates that better than an academic assembly such as favored me with the invitation to be present to-night, and with the honor of the permission to address them.

A QUESTION REGARDING TRACHEOTOMY.

BY E. A. LEWIS, M.D.

Read before the Brooklyn Surgical Society, January 5, 1888.

MR. PRESIDENT :—The object of this paper is to elicit discussion on one surgical point connected with the operation of tracheotomy. Incidentally, in the discussion, the place which this operation has, or should have, in surgery, in reference to laryngeal stenosis from croup or diphtheria, may find a place.

I am quite aware that I shall probably be in the decided minority in the opinion which I shall express, even if I do not stand entirely alone; but while my experience has not been very large, neither has it been small, and I have personally seen quite cases enough to form a basis of opinion, even if I had no other testimony. My opinion, I may say, is not a dogmatic one, and I am quite ready to change it back to what it was some years ago, if argument and the result of the combined experience of the Club shall convince me. The object then of the paper, I say, is to open a discussion on one surgical point connected with the operation of tracheotomy for croup or diphtheria, by giving the results of my own and the experience of others, without entering into any attempt at accurate statistics, or the production of an elaborate article, which the nature of my engagements at this particular time of the year forbids. Moreover, I conceive that one of the purposes for which this Society was formed is, to bring out individual opinion, and to discuss, almost informally, questions of surgical interest, and I might say policy, and therefore I introduce this question here; and it may almost be called a question of policy. But whatever we may name it, it is a question which every surgeon has to face, and to me it is a most unpleasant one, and fraught with the greatest responsibility. The object of the paper I have thus stated, and now let me indicate its scope.

It is not, first, to open up the *general subject* of tracheotomy. The place which that has in surgery is too well fixed to even discuss. Nor is it to speak of methods of operating, for these are sufficiently well determined on. It is a matter of some interest to me to note the rating, so to speak, which the operation has among the profession at large. Men who make no pretensions to surgery often attempt the operation, and as I have observed popular opinion among doctors, it is not ranked among the more serious operations, and still, according to my experience and under the circumstances which most of us are called to perform it in, it is among the most troublesome of operations and often

attended with great and immediate danger to life. While often it is extremely simple, yet who here is unfamiliar with the contracted little room, the late hour at night, the absence of proper light, assistance, facilities for present or after treatment, the short neck, turgid veins and the necessity, withal, for immediate action, if any at all. I presume my experience of climbing over the patient to the back of the bed, putting a pillow under his shoulders, and with a friend on the front of the bed, and a second one to hold a candle, of introducing a tube into the trachea, is one which has been duplicated in the experience of many here. In fact, the most dramatic situations in which I have ever been placed have been in connection with this operative procedure, but this is not the time or place to recall them. I wonder, however, I say, at the trivial way that the operation is many times alluded to. Still, I, in common with the rest of you, have done the operation often, and stand ready to do it when indicated, and have my special case ready to put my hand on instantly. The question which agitates me, and to which I return in indicating the scope of this paper is: how far shall we, as surgeons, go in advising or urging the operation. *That* is the point where I fear I may not be in accord with many, if not most of the gentlemen present.

In what I have to say I speak of the operation generically, *i. e.*, when I say tracheotomy, I mean any operation which opens the trachea. I do not wish to discuss the relative merits of the different operations as compared with the more recent intubation, nor to bring up the question of the duality of the diseases named croup and diphtheria, nor again to speak of the obviously indicated class of cases for prolonging or preserving life, such as œdema glottidis, from cut throat or other cause, or stenosis of the larynx from chronic disease of any kind; but to call up that most distressing class of cases, for which the operation is most often performed, of obstruction in croup and diphtheria, where the results are so discouraging.

Let me first state the ground I hold in reference to the question, and then adduce the testimony and argument which is the foundation of my belief.

The question is, how far shall we go in advising or urging the operation of tracheotomy in the class of cases which I have mentioned.

The position that I have held for a number of years is this: I have been ready and willing to operate if *requested* by the family, *i. e.*, the parent or friend competent to speak for the patient; but I have *not urged*, and in many cases hardly advised the operation. I am not prepared to speak accurately of the results shown by statistics, but my belief is, that not over twenty-five per cent. of cases recover, by the very best figures. This result, of course, is not to be attributed to the

operation as a fatal one *per se*, but to the fact that, in spite of the operation, a very large proportion of the patients die. The question, also, of antiseptic surgery does not enter into the case, for the small wound has, I believe, little if any effect on the recovery of the patient; but the operative procedure itself has, to my mind not infrequently, a certain effect. I believe it is generally allowed that the statistics of this operation do not furnish a *reliable* argument as to its real mortality, or the mortality which follows it. The cases are so scattered, the disinclination to report unsuccessful cases is so great, that only an approximate idea of its success can be thus obtained. Has any one here had anything like twenty-five per cent. of recoveries in a series of cases? My belief is, that if all the cases could be reported, the results shown by figures would be very much less favorable than those which are now on record. Again, certain surgeons say "operate early." This leaves an element of doubt; for many cases undergo the operation which would recover without it.

Since I have ceased to urge the operation the percentage of recovery in apparently hopeless cases has been greater than before. I have seen at least two desperate cases recover under the lime and bi-chloride treatment. I am reasonably sure they would have died if operated on. I recall ten unreported cases of operations with one recovery, and how in the world that particular one got well I have always failed to see. There is an authority which has with me great weight, which is not statistical. It is the deliberate opinion of a number of careful, thoughtful, experienced men, who have seen many of these cases and have formed their judgment on years of contact with this distressing condition. These gentlemen have, many of them, allowed me to use their names in this connection, and their opinions are settled in the matter. I could collect much more evidence of this kind I doubt not, if time allowed. Prof. Frank H. Hamilton, during the latter years of his life, objected to the operation, saying he considered it useless. Prof. Jas. R. Wood, with whom it was my privilege to be some years associated, was not in favor of the operation in the class of cases to which I am referring. Dr. Jos. C. Hutchison operated twenty-five times, and twenty-five times was the operation unsuccessful. Dr. Hobart Burge is opposed to the operation, and recalls, in the course of his long experience, at least nine desperate cases, which recovered without operation. Dr. Alexander Hutchins fails to see that the operation promises relief. Dr. J. T. Conkling does not believe the operation as a rule beneficial. Dr. Chas. Corey is opposed to the operation. Dr. Andrew Otterson, in his usual terse style, says, "the operation is successful, but my patients all die." Such opinions as these may be multiplied. Surely they are entitled to weight. These men, if they have not

operated themselves, have furnished the patients and seen the operations and their results. Moreover, it is the universal testimony of these gentlemen that a certain proportion of the worst cases get well after all. I am not prepared to assert nor yet to deny, that if the operation were not done at all, the percentage of ultimate recoveries might not be about what it now is.

What is the state of the case in the light in which I have presented it?

We have to meet, first, the great fatality which follows operation, even when performed most skillfully and with the most favorable surroundings, although this fatality is due, not to the operation itself, but to the disease. Still, the operation often gets the credit.

We have, second, the horrors which surround the operation. Not horrors to the surgeon, although many of the cases are very trying, but to the family. Over and over again have we heard the sorrowful mother say, "I'm so sorry I allowed the operation."

We have, third, the acknowledged fact that certain desperate cases do after all recover without operation, and we cannot be entirely sure that the shock and loss of blood may not be the factor in some cases which determines a fatal issue.

We have, fourth, the combined testimony of many thoughtful and experienced men, that the operation is not to be advised or at least urged.

Am I opposed to operating? Oh no! But I am opposed to doing anything more than offer the operation as a *dernier resort* and make the parent, or friend in authority, assume directly every responsibility of every kind, and have the understanding so distinct, that there can be no shadow of a doubt about it. I am, in other words, in the great majority of cases, in favor of acting under the distinct *request* of the parent, and with the full understanding that the promise of relief is very remote, and that I am only doing my duty in offering a desperate chance, and I am opposed to *advising* or *urging* the operation; for the friends in the cases are prone to blame a surgeon who is not very cautious as to what he promises. I believe the operation should be offered to the parents, but the choice left to them.

I have opened this question for expression of opinion, because it was formerly my custom, not only to offer the operation, but to urge it, and my experience has been so bad that, after a full consideration of the subject, I have for some years been rather unfavorably inclined to it, and I wish to find out how far my views are agreed to by other gentlemen who have had, and are daily having, to meet these cases.

DISCUSSION.

Dr. PILCHER.—It seems to me, Mr. Chairman, that the very first thing in connection with the discussion of tracheotomy or any other

surgical procedure, would be to establish a common point of view from which to examine it. The author of the paper this evening does not seem to me to have done this, inasmuch as he has not discussed tracheotomy, in connection with the conditions which it is proposed to relieve. There has been very graphically and well stated the difficulties under which it is often done, and the lack of success, as regards the saving of life, which very often attends it, but as to the conditions which are presented as indications for the operation, it does not seem to me that a sufficiently full discussion has been made for us to be able to meet him and to exchange satisfactory views in relation to the question, as he puts it to us. If I might be permitted, I would like to suggest a point of view from which we might all exchange opinions with the probability of arriving at some valuable conclusion.

The cases in which we are called upon to decide as to what ought to be done, are cases—certainly in the great majority of instances—in which the air passages are occluded to a considerable extent by the deposit within them of diphtheritic exudates, so that we have two things to take into consideration. The treatment of the diphtheria as a whole, and the relief of the strain and the drain upon the patient's strength, to which it is being subjected in its efforts to obtain sufficient air. An additional immediate vital indication exists in a certain proportion of cases, namely those in which the obstacle to breathing is so great that it is immediately threatening death. Now when we are called to advise in any case, it seems to me that we are called to exercise our judgment and to give our advice as to what, in our opinion, would be the best thing to be done for advancing the well-being of that particular patient at that particular time. We are not called to discuss therapeutic measures with the parents, but we are called to give our advice and our opinion of the case; and it does seem to me in such cases we are not doing our duty if we do not have some definite advice to give. If we are satisfied that any procedure is not the best thing to do, we ought to advise that it is not the best thing to do; if we are satisfied that it is the best thing to do, we ought to advise that it is the best thing to do; if we have no definite opinion we ought not to bring up the question at all. The question of tracheotomy, however, may not be brought up by us, but it may have already been brought up and it may be submitted to us, as frequently it is submitted to us for our opinion, in which case, of course, as our opinion, must be pro or con, or unsettled, we simply would be responsible for stating it whatever it may be.

Now, with regard to the main question that has been raised here, as to how far we are justified in urging an operation, I doubt very much whether it is the duty of a physician to *urge* any procedure in any case of any kind. It seems to me that in all the cases that are presented to

us, it is our duty simply to advise, and not to do any urging; whether it be in a case of this kind, or whether it be a case of malignant disease in any portion of the body, or whether it be the most trivial or passing complaint. It has been my own experience in a great majority of cases, and it is being more and more the case as the years go by, to have parents, friends, and physicians who call me in to see these cases, leave the whole matter entirely to my judgment. They say they want to know what I think would be the best thing for the patient, and when an opinion is expressed, ready acquiescence, without any urging, follows. It seems to me, however, that in all cases where parents or friends or the patients themselves must decide, that it is well for us to state the reasons for our opinions and after stating the reason of our opinion and giving our opinion to leave it with them as to whether they will accept the line of conduct which we advise.

Now, in this particular operation the number of cases which I have had personally is getting pretty well along, so that the average of results may be accepted as a fair average, I think, of what might in general be expected. The number is now 58, and of these, fifteen recovered, which is a little more than twenty-five per cent.—about the general average—I think the general average of many thousands of cases is twenty-nine per cent., according to the best statistics. I do not think that averages which are taken from picking up a half a dozen cases here, and one case there, and three or four cases there, and gathering them together are worth anything, but only those which are drawn from a large number of cases such as the thousands of cases to be collected from the Parisian and from the German hospitals; the statistics of these hospitals give us a little more than the average that I have already spoken of. The average is brought down by associating with them large numbers of scattering cases. So that when I find in a limited number of cases such as I am able to report from my own experience that the average is as it is, it seems to me that it is what ought to be expected from a considerable number of cases under fairly similar conditions. But this is neither here nor there. Of course, in addition to the fifty-eight that have been operated upon, there have been a great many cases which have come under my observation that have not been operated upon. A good many cases to which I have been called were manifestly suffering especially from those conditions that would demand the opening of the trachea; others were suffering from obstructive symptoms, but not to such an extent as to make it proper to open the trachea at that time; some cases I have been called to see in which I have advised operating, but in which the operation has been refused.

Now, most of those to which I have been called with a view of

operating and which were not proper subjects of operation were cases of malignant diphtheria and were dying simply from the general systemic condition, and they have all died. Many of the cases which I have seen and which at the time that I was called upon to see I did not think were sufficiently pronounced in their indications to demand immediate tracheotomy, recovered without operation. Some of them continued to get worse and required to be operated upon at a later day, and some of them died without being operated upon. Of the comparatively few cases in which I have advised an operation, and in which it has been rejected, all died. In this respect I know that I have not had the same experience as some of my colleagues who have advised an operation, and notwithstanding it has been refused, their patients, in rare instances, have recovered. But these instances are very rare, the few cases of that kind which do occur are all counted, they are well known and they are so frequently reiterated that they make the impression that they are comparatively common occurrences. I do not think they are. Of the cases that have died upon whom I have myself operated, in none of them have I had occasion to regret that the attempt to save them was made. Many of them have lived for a number of days and then finally died from the general diphtheria; their lives were prolonged, of course, and the operation did all that could possibly be expected of it. In many other cases, and these are the majority of cases, the lives are prolonged sufficiently for a further extension of the diphtheritic deposit, and the final exitus has been the result of this extension of the disease.

In the early history of my own work there were a few cases in which the difficulties connected with the operation were such as for the moment certainly did hazard the life of the patient, and that simply is a statement which gives force to the statement made by the author of this paper, that it is an operation which demands experience and some operative skill to cope with the emergencies likely to arise, but with increasing experience and knowledge of the ordinary emergencies likely to arise, it seems to me that the operation need not be attended with hazard in itself to the life of the individual.

To sum it all up I would look upon it as one of our therapeutic resources in dealing with diphtheria of the larynx and trachea and to be accepted by us and to be used by us in proper cases, just as we would use a blister or a cathartic or any other therapeutic resource. We are to be guided by the indications which the case may present. We are to give our advice, to state that we believe that it is the best thing to be done in that particular condition. The choice as to whether it shall be done or not is not for us to make. But very much will depend, I am satisfied, upon the manner in which we state our conviction, as to the way in which it is received and acted upon by those who have to decide.

If it is suggested in a hesitating way, magnifying the dangers and belittling the advantages, of course it will be rejected. If we go to the other extreme and in too sanguine a manner depict the possible advantages and fail to present the other side it may be gladly received and the final lack of success may bring us into discredit. It seems to me there is a golden mean in this whole thing, that tracheotomy is a fair surgical procedure, that it has a proper position in our art, and that a very considerable proportion of otherwise fatal cases will be saved from death by its adoption, and that it is always proper for us to set forth the advantages of it in a fairly strong light and advise it, when the indications for it are present, though we may not urge it. That would be the position which I would like to see taken with regard to it.

Dr. ROCKWELL.—One or two points occur to me in regard to Dr. Lewis' paper, and they are these: The list of gentlemen whom he mentions is composed very largely of a class of our medical community who do not operate themselves, at least with two or three exceptions. They even take the view which the author states as common in the medical profession—that tracheotomy is a minor procedure; yet most of them would not undertake to perform it. One of the gentlemen whom he mentions as having uniformly failed in the procedure, in spite of that result, when the opportunity arose in his own family, had the operation performed. Another one whom he mentions summoned me to perform a tracheotomy in a case of his, in which the patient was dead when I arrived at the house. It was a case of stenosis, extending over several days, which I would have operated upon at a much earlier period. I think Dr. Pilcher's view is a very fair one, that the position of the surgeon is one in which he should stand ready to do the operation, but he should lay before the parents the probability of success in the given case and the general success of the operation, and then leave them to make the choice. There are certain cases in which I do not think he ought to go so far as to state the probabilities either one way or another. In tenement houses, for instance, where the after-treatment is impossible, and where the question of death is one of a few hours under any circumstances, I do not think the surgeon is called upon to urge the performance of the operation, as in cases of this kind, whether it be done or not, there is no proper treatment afterwards, and he knows what the result will be under the best treatment that such families can give the case. I take Dr. Lewis' position there in standing ready to operate, but not urging or advising surgical interference particularly. In other cases where the child is dying from systemic causes, of course the operation should not be done. I think the fact that it is often done in these cases gives the operation the mortality that it has.

I have had but one case in my own private practice, and that was

my first one, and it was perfectly successful. With the twenty-four or twenty-five which have followed it the average mortality has crept down to about twenty-five per cent. Within the last two or three weeks, I was called by telephone to perform a tracheotomy, and before I could get my instruments packed and leave the house I got word that the child had died. In another case, though responding promptly to the call, I found the child dead on reaching the house. In this particular medical community the operation is so often deferred until the very last moment that the general impression among our medical brethren is that, as an operation, tracheotomy is not a success.

Dr. FOWLER.—I think, Mr. President, it may be said that some of our medical brethren are not infrequently ashamed to acknowledge to the parents that their measures have been unsuccessful. I do not know that I ought to accuse them of dishonesty in the matter, but they will defer suggesting any further procedure until the child is doomed, and then hesitatingly say to the parents that possibly opening its wind-pipe may delay the final issue a few hours. Another thing that should be taken into consideration in this matter is the fact that the after-treatment of the cases, when left in the hands of the medical practitioner is usually inefficient. He has made up his mind that the child is going to die anyway, and it has been my misfortune to lose more than one case because the medical attendant did not have the courtesy to ask me to take charge of the after-treatment.

It occasionally happens, when called to a case in which tracheotomy is fairly indicated, that the whole matter has been arranged and the prognosis given by the attending physician before my arrival. Either the parents have been told that the operation will prolong life and then the patient will die, or else, on the other hand, the medical practitioner has made them some very extraordinary promises which it is impossible for me even to attempt to fulfill, and so I am placed in an unpleasant position. I must back him up and do the operation because he has said that it is necessary, and he has even said that it will save the child's life. I cannot very well tell the parents that it is all wrong, and, on the other hand, I cannot go ahead and do the operation and leave them with that impression. I think our dealings with the medical community are often very trying, to say the least.

The whole question of the after-treatment, I think, should be discussed in connection with this question of policy, as Dr. Lewis calls it—the policy of urging the operation. In the large university towns abroad there are tracheotomy pavilions, where patients are taken even from long distances, at every hour of the day and night, in cold and hot and every other kind of weather, and evidently without damage to the patients. They are taken to these pavilions and operated upon

by skillful operators with competent assistants, and they are thus placed in the most promising conditions for recovery. They have all the apparatus for softening the pseudo-membrane, keeping up an even temperature and a proper degree of moisture of the atmosphere, they have skillful nurses who have the most perfect knowledge of the removal and replacement of the canula, and they have assistants at the pavilion night and day who are perfectly competent to act when a bit of membrane occludes the lumen of the tube, and who can act in fact in almost any emergency. The operation, the Doctor says, often kills the patient, but I believe the after-treatment often kills, and not the operation.

In the performance of the operation itself, the Doctor speaks of hæmorrhage and shock. I am inclined to differ with him in the matter of shock, for I think comparatively little shock follows this operation. I have seen patients killed, however, with chloroform, and I think that matter should receive careful attention. When an anæsthetic is to be used, I almost always select chloroform, because it acts promptly and because the irritating effects of ether upon the air passages are such as deter most surgeons from choosing it when any part of the respiratory tract is involved, and hence chloroform is given. It often happens that some friend of the family must give the anæsthetic, and one cannot keep one's eye on the chloroform, the condition of the pulse, the passing of the instruments, and the proper condition of the light, which is very important. Therefore I think that in many cases death is not the result of shock, but from lack of method. The manner of operating has a great deal to do with the amount of hæmorrhage. If one selects the slower method of dissecting away the tissues, the trachea can be reached without much difficulty. The method of grasping the edges of the incision with heavy traction forceps will almost certainly guard one against inadvertently opening any of the large vessels.

In the class of cases where the neck is short, as Dr. Lewis says, there are more difficulties in the way of operation. It is usually due to the difficulty in getting the canula either above or below the isthmus. In this class of cases, I have made the primary incision with the scalpel, and drawn apart the muscles and clamped them with forceps, and gone directly over the isthmus with the thermo-cautery. The amount of blood lost is very slight where this method is adopted, and the facility with which this operation can be done is extraordinary.

I have been asked by parents, "Doctor, what would you do if this was your child?" Now, that is bringing the case right home to one. It seems to me that even if I was a less enthusiastic advocate of the operation than I am, I should not hesitate to give my child the

advantage of comparative comfort for the balance of its life, however short it might be. When the question is brought home directly to me in this way, I do not hesitate to say, "If it was my child, I should have the trachea opened, and I should not wait until it was in extremis, I would do it early." I believe the early operation is not fraught with danger, and that therefore the result of the operation itself is very seldom fatal. I believe, however, that the operation, except in emergencies, should not be undertaken, or its after-treatment undertaken, by any except those who have had some experience in it. I am quite sure that many cases are lost on the operating table by operators who get flurried at that supreme moment when one stroke in the wrong direction is fatal. The operator makes a plunge, and wounds either one of the large external jugular veins or perhaps divides the artery which crosses the site of the "low operation," and there is a gush of blood, and in his haste to catch it he plunges his scalpel into one side or the other of the trachea. I believe this is frequently done by those who have little experience.

To return to the first proposition: Shall or shall we not advocate the operation? I think we cannot discuss this matter, or take any common ground upon which to base the discussion, without bringing up the whole question of the character of the case to be acted upon, the kind of operation proposed to be done, the experience of the operator, and the experience of those who are to conduct the after-treatment of the patient. The fact, as stated by Dr. Pilcher, that the mortality is much less and the results much better in the Parisian and German hospitals is due, in my belief, to the large experience, not so much of the operator as of those who have charge of the after-care of the patient. For my own part, when I am placed in a position where I must either advocate, or advise against, it, I advise for it *first, last, and always*.

Dr. THALLON.—Do you give any anæsthetic?

Dr. FOWLER.—I endeavor to give as little anæsthetic as possible. I place the child in a position where it can struggle very little, by wrapping it in a blanket or sheet firmly enough to hold it, but not tight enough to interfere with respiration. If the person who would ordinarily administer the anæsthetic can hold the head very still, after the first incision is made through the skin there is very little difficulty. It is my practice to have the chloroform at hand and give a very little at first, but I never wait for the child to be fully anæsthetized; I think it can be done as often without as with the anæsthetic.

Dr. WACKERHAGEN.—After presenting both sides of the question to the parents or friends, I am in the habit of advising this operation for the special reason that when patients die from diphtheria, their suffering is very much alleviated when the trachea has been opened.

In regard to some of the difficulties attending the operation, I would like to mention a complication which occurred to me two years ago. In this case the isthmus of the thyroid covered the crico-thyroid membrane. Intending to open the trachea below the isthmus, the incision was prolonged downwards, but after cutting through the deep fascia, an accumulation of dilated blood vessels was found completely covering the trachea, resembling in appearance a bunch of sand-worms. I then divided the isthmus from above, by placing artery forceps on each side of the middle line, and dividing between them, ligating with heavy silk. In this way I succeeded in exposing sufficient of the trachea to pass the tube. Once the artery forceps slipped off, and there was profuse hæmorrhage for a few seconds. This patient recovered.

Dr. WIGHT.—I think it is a satisfactory and desirable thing for gentlemen to give their own conclusions irrespective of the conclusions of any one else, and they can modify them afterward or not, as they think best. I have no doubt in the world that the operation of tracheotomy, using that as the generic term, is a most desirable operation at times, and ought to be done. That it should be done promiscuously, I do not think any surgeon will for a moment claim or advocate. It should be done for a reason; because it is required at the time that it is done. I do not think there should be a question about the soundness of the conclusion; that is to say, if there is no disease of the lung, if there is no disease of the bronchial tubes, and if the child cannot breathe well enough to suit the judgment of the surgeon, he is warranted in opening the trachea. I believe that states my conclusion in regard to that matter.

Now, as to cutting into the trachea, I have always used a sharp-pointed bistoury for cutting the rings of the trachea. I always have a tenaculum to hold the trachea as still as possible, and I either take that myself in my left hand, or give it to an assistant entirely competent to do that work.

I do not think it is for me to dwell upon the threadbare question of hæmorrhage. I get down there as soon as I can, and I have no trouble with hæmorrhage. I do not care very much about the anæsthetic, if I have a careful assistant to hold the patient. I have hot sponges, and I generally use what I call my artery forceps, clamping with them on each side and then pushing in the bistoury and cutting upwards. I have never transfixed the trachea except at the point where I have cut. I believe that is sound surgery.

Now about the dangers of the operation. I believe it to be more or less a dangerous operation, and as necessary as it is, as important as it is, it is not an operation that can be presented to society as of no special danger. I was not aware that they had the facilities for opera-

tion abroad, as spoken of; at least it had not made an impression upon my mind. I have been thinking over the subject; I am a thorough advocate of it, and I have already advocated the special pavilion or hospital or ward method, that every hospital in the city ought to have a ward especially set apart for just such operations, having everything ready and at hand for the operation. I will not operate any more in low tenement houses under ordinary circumstances, for these cases in the main die.

I desire to state one or two points. Some time ago I operated upon a little boy, a very interesting, bright boy, eight years of age, who was in the throes of asphyxia, ready to die at any moment. There was no question in my mind about the propriety of operating upon the case, and the instant relief was marvelous. I put in a very excellent tube, and the medical gentleman who had charge of the case said he would take care of the child, and if it was necessary would send for me again. Such a relief I never saw before, and he certainly should have lived; but the child died the following day. A few minutes after the child died they sent for me, and I went in, and the tube was taken out; but I did not remain. The sequel was this: Some short time after that I wanted to use my tubes, and I thought I would go and get them out and disinfect them. It took me something like an hour to clean out the inner tube, which was absolutely choked up, notwithstanding I had given special directions to have the tube cleaned. The child had been choked to death for want of cleaning the tube. I mention that as corroborative evidence; but I do think if we had special wards in our hospitals everywhere to gather up these unfortunate cases and foster this idea among the people of Brooklyn, especially among the poor, whose children frequently have croup, we might at times save a good many lives. I am heartily in favor of such a plan if it could be carried out at the various hospitals in the city.

Dr. WUNDERLICH.—If the conditions are such as to impede ingress of air, I think it is the duty of the surgeon to advise the operation. He should not only speak of the difficulties, but also lay great stress on the necessity of careful after treatment; but when those points are made clear, I think he should advise it.

In regard to the first successful case in my practice, I will say that in my opinion the measure of keeping the patient for days and nights in succession on the table and thereby causing the mother and relatives to be continually on the lookout, aided materially in bringing him through. The mother kept asking the question: "When can I put him to bed?" And I told her not until I can take the tube out. She said: "If he is put to bed and quiet, I might lie down on the sofa and take a little rest." I replied: "That is just what I do not want you to

do; the boy will remain on the table, and you must stay at his side and watch him; if you need rest, somebody else must take your place."

Since then I have adhered to this rule, and have had the satisfaction of seeing two children in one family recover, on whom I had to operate for diphtheritic croup within four days, and who had to be treated simultaneously in one room.

I am convinced both children would have died, without an operation. Even if the patient's life is not saved by the operation, great relief will be obtained. In illustration of this, I will mention the remarks of a father of a boy, on whom I had made a tracheotomy for diphtheritic croup, and who died subsequently of extension of the disease to the lungs. The father expressed his thanks to me for having operated. He had lost two children with diphtheritic croup, and in his opinion they had suffered much more than the child operated on; and under similar conditions he would be in favor of having tracheotomy done simply as a means of relief.

Dr. BOGART.—It seems to me that the question we are discussing as to the policy of this operation necessarily brings up the subject of intubation, because there are certain cases in which tracheotomy would be refused, no matter how it might be put by a surgeon, but in which the parents or those in charge would consent to intubation, which, though not so desirable an operation, would still give a chance of recovery. Where tracheotomy would not be allowed, should we not suggest intubation as an alternative? Again, intubation does not require the same careful after treatment, and for this reason might be practicable when tracheotomy would not be.

Dr. LEWIS.—This has brought out just the kind of discussion I have wished. I do not think that my views differ very materially from the views of the gentlemen who have spoken. The only thing where I see that I should differ from the prevailing opinion, is that I should be—I was going to say less anxious to operate; I won't say that, but I should be disposed to magnify, or I should state with particular clearness the dangers of the operation. I think I was misunderstood by one of the gentlemen here in stating that the operation kills. I do not think that, but I say the operation gets the credit of killing sometimes, with certain people. Certain points have been brought out in regard to operating in tenement houses which I think are very practical.

I will speak of one case I had which Dr. Pilcher saw. I do not know whether he has ever been informed about the circumstances or not, but there was a child that was very sick with an exudate, and in company with two other surgeons and the physician in charge I went to the house where the child was and we saw the case and stated dis-

tinctly to the parents that the operation promised a chance of success. We had our instruments and were all ready to operate. We stated to the parents, "There is an indication for an operation and we will do it, only we take no responsibility. We will do our best and the child may recover or it may not." The idea of an operation was new to them and they declined it. We went away in our various vehicles leaving word that if they changed their minds in two or three hours that we would be within call if we were wanted. The facts in the case are that one of the "Committee on Sickness" came in and saw the condition of the child and said, "This child must be operated upon right off," and by sheer force of will carried the parents with them so that the parents then favored the operation, Dr. Pilcher was summoned, the operation was performed and the child recovered. I do not know but if I were put in that condition again I would do that same thing. I would state to the parents just what we stated at that time, not magnifying the dangers, but telling them the child might die in spite of the operation. The only point in which I would differ would be in rather a more conservative statement of the chances for recovery, and possibly in being a little more determined that the operation shall be "by request," if you please.

The next business in order being the presentation of cases, Dr. Wight presented the following :

Dr. WIGHT.—It won't take but a minute to relate this interesting case. I have here a ball I removed from the abdominal wall of a patient some time ago, Dr. Lewis assisting me. It appears that in a brawl between some Italians one of them was stabbed and this one was shot. It was a very large ball, and interesting in its way, for it appears to have struck a button just a little to the left and above the umbilicus and that deflected it so that it went just outside of the deeper fascia of the abdominal wall, so there was a distance of from ten to twelve inches and it appeared so as to be easily felt upon the left side of the abdomen and was readily cut out there. The interesting point to me is the fact that an incision was made some three inches in length at the middle portion of the channel that it took over the abdominal wall, thus enabling us to get our fingers in and determine the fact that it did not go inside of the peritoneal cavity. A drainage tube was put in, the incision was stitched, primary union took place, and the man did well and is now at large. The interesting thing specially was its having struck one of the buttons on his clothes which deflected it and probably saved his life.

W. M. THALLON,

Secretary.

INFANTILE UMBILICAL HÆMORRHAGE, WITH REPORT OF A CASE.

BY JOSHUA M. VAN COTT, JR., M.D.,

Lecturer on Histology and Pathological Anatomy and Pathologist, Long Island College Hospital.

Read before the Medical Society of the County of Kings, February 21, 1888.

On April 23d, 1885, Dr. Wm. H. Thayer, of Brooklyn, read before the Brooklyn Pathological Society a paper entitled, "Umbilical Hæmorrhage," in which he reports a case of this kind in an infant dead on the sixth day after birth, and having suffered with marked progressive icterus. The necropsy revealed total obliteration of the ductus communis choledochus and a portion of the hepatic duct.

Dr. Thayer also produces the literature in abstract of one hundred and seventy-eight cases reported by various authors, and dating as far back as 1752, with a reported case from an English surgeon named Watts.

The Doctor also calls attention to the results of post-mortem examinations in twenty-two cases, and, further, draws attention to the fact that in most of the one hundred and seventy-nine cases icterus complicated.

For the full details of Dr. Thayer's interesting and valuable paper, you will consult the *New York Medical Journal*, 17th Oct., 1885.

To Dr. Thayer's list of reported cases I would add twenty more by the following gentlemen, with the results of their autopsies (*vide post.*)

In these cases icterus was uniformly present, and indeed it seems probable that in all of these cases of hæmorrhage the jaundice not only complicates, but bears a very direct etiological relation to the hæmorrhage.

Eliminating those rare cases in which there is no icterus, also those cases in which the hæmorrhage is the direct result of accident, we are forced to a consideration of the relation of so prominent and persistent a complication as icterus, to the hæmorrhagic tendency these cases display.

This necessitates an investigation into the effects which are produced by the retention or resorption of bile in the tissues.

Glaister, of Edinburgh, in his paper already cited, says that dissolution of the red blood corpuscles, and as a result of this imperfect oxidation, are produced in a system overloaded with bile.

Charles, in his Phys. and Path. Chem., remarks that bile has a solvent action on colored blood corpuscles, and injections of biliary acids tend to produce parenchymatous degeneration of glands and

muscles, and by acting on the cardiac ganglia inhibit the heart's contractions, slowing the pulse. Indeed, these views seem to be commonly held by most writers on the subject.

Spasm of the respiratory muscles is also said to be produced by jaundice. In short, bile in toxic amount seems to produce profound effects on all of the functionally important tissues of the body. It very markedly impairs the blood, rendering it thinner than normal and reducing its oxygen carrying capacity, and by inhibiting cardiac action it further reduces the supply of an already crippled blood to the tissues in general; furthermore, it cripples seriously the very cells in the glands of the body upon which the functions of the glands depend.

As a consequence of this, nutritive, excretory, and nervous disturbances result. The tissues in general are depraved, and the blood vessels throughout share in the general depravity. And the blood vessels thus weakened stand ready to admit the passage of blood, in itself thinner and less consistent than normal, through their walls.

This seems to me to be a perfectly rational explanation of the overwhelming clinical evidence that icterus exerts a profound influence toward producing the hæmorrhagic condition in these little cases.

Why the site of the hæmorrhage is so frequently the navel is readily explained on the ground, first, that obstruction to the circulation is usually most marked in the liver in these cases, if such obstruction exist at all; and, second, that before and when the funis separates, the navel is covered by young scar tissue, which is far less firm than the tissues of the integument; and, indeed, that in many cases healing of the navel is incomplete.

If, as seems evident, icterus be a prime factor in the etiology of these fatal cases of hæmorrhage, it becomes at once a necessary inquiry as to what causes the jaundice.

Indeed, so-called "icterus neonatorum" in all its phases, from mild transient forms to the grave fatal types, is at once interesting and obscure oftentimes in its etiology.

To comprehend at all clearly the possibilities in this question, one must review his knowledge of the biliary apparatus, and the probable mode of secretion of the bile.

Bile is compounded in the liver. This organ is a compound gland composed of parenchymatous cells massed in little groups called lobules, and surrounded by a stroma of connective tissue having also a very definite supply of blood vessels, lymphatics, nerves, and bile canals or ducts. The hepatic artery, portal vein, and bile duct ramify between the hepatic lobules in company with each other, forming with an enclosing connective tissue sheath the portal systems. These portal systems supply capillary vessels to the hepatic lobules in such a way

that the ultimate hepatic cells are in intimate relationship with them. This statement applies to both blood vessels and bile ducts. Each hepatic lobule is a little liver in itself, and, aside from its glycogenic function, is busy secreting bile, which flows through the bile ducts to finally gain entrance to the gall bladder.

The stroma of the liver is seen in greatest amount surrounding the portal systems, and interstitial lesions of the organ are usually seen most markedly here.

The bile ducts are to be readily distinguished, from the fact of their being lined on their inner coat with a low variety of columnar epithelium, which is supposed to secrete mucus for lubricating purposes.

From this review it is evident that suppression of bile may have various causes.

First. Parenchymatous hepatic degeneration ; destruction of hepatic cells, with destruction of hepatic function. Dr. M. P. Jacobi's case seems to illustrate this.

Second. Catarrhal inflammation of the bile ducts, resulting in their closure by plugs of mucus and desquamated epithelium. Or again, Third, plugging of the ducts with inspissated bile. These obstructions are complete or incomplete.

Fourth. Interstitial hepatitis, often a direct result of syphilis.

Fifth. Transient icterus is ingeniously ascribed by Grailey Hewitt, in a valuable article in the *Lancet* on "Icterus Neonatorum," to atelectasis pulmonalis ; his theory being that the right heart is often taxed unduly in weakly children, whose lungs have not been sufficiently expanded. A partially solid lung necessitating more work from the heart, damming back of the blood occurs in the liver as a result ; and this induced passive congestion of the liver is followed by swelling of its cells, which are somewhat over-stimulated, and the parenchymatous swelling produces a mechanical obstruction to the outflow of bile through the bile ducts.

Sixth. Complete or incomplete stenosis of the hepatic duct, the common bile duct, or both. These conditions are either caused by inflammation, or are congenital ; and the gall bladder may also be congenitally absent. Biliary calculi may also obstruct the common duct. Two other doubtful causes of icterus are mentioned, one by Waring Curran, who reports a case of "spasmodic stricture" of the common duct ; another by Lieutaud, who claims that coagulated milk may become impacted in the duodenum, and by pressure upon the orifice of the common duct prevent the flow of bile. The first cause is indeed doubtful, and I can scarcely conceive the possibility of the second.

Thus far we have considered the fact that in these cases of umbilical hæmorrhage, icterus is almost invariably present; and we have endeavored to demonstrate the intimate relationship of the jaundice with the causation of the hæmorrhage. Adding the presence usually of some obstruction to the hepatic circulation, through swelling of the liver and other changes which result from the icterus, and mentioning those rare cases in which the large portal veins are thrombosed or congenital malformations of the great blood vessels exists, it now remains, sir, to cite a case illustrative of one of the causes mentioned above, and in itself novel; and to speak briefly on the therapeutics of these cases.

REPORT OF DR. F. H. COLTON'S CASE OF FATAL UMBILICAL HÆMORRHAGE
WITH ICTERUS.

About a year ago, I was called upon by Dr. F. H. Colton of Montague street, to conduct a post-mortem examination on the body of an infant dead of a persistent hæmorrhage from the navel, and the following were the findings of the autopsy.

Before stating, however, the facts gained at the post-mortem table, it will be well to give a brief clinical history of the case.

The patient was a male infant, æt. 11 days, and born of healthy parents.

Family history negative as regards rheumatism, syphilis, and tuberculosis, also the hæmorrhagic diathesis.

There have been five other births in the family, and no miscarriages. One still birth, and one death of dysentric gastro-enteritis, complete with the present case the mortality list.

On the sixth day, at the separation of the funis, hæmorrhage occurred, which persisted for four days in spite of every effort to check it, and on the fifth day from the time the cord separated, and the eleventh of the child's existence, the patient died. Before death jaundice set in, and was fairly well marked, not more so, however, says Dr. Colton than is often the case in new-born infants. The Doctor forgets whether icterus preceded or followed the hæmorrhage. Bowels and urethra pervious.

Autopsy.

Inspection.

Body fairly well nourished. Rigor mortis not developed. No œdema. The entire surface of body tinged a decided orange yellow, also the sclera of both eyes. The navel presents the appearance of the glans penis, covered with the prepuce. The funis has fallen off, leaving a somewhat projecting stump, the surface of which is ulcerated, and which is enveloped with the abdominal cutis, in a manner much resembling the covering of the glans penis by the prepuce.

At several points over the abdomen anteriorly, are seen small hæmorrhages, well circumscribed, and elevated, feeling like small shot under finger. In size they are perhaps not larger than the head of an Irish pin. One of these hæmorrhages is located about one and a half inches from the navel. They are all dark red in color.

Peritoneum. Normal.

Diaphragm { At 4th rib left side.
 { At 5th rib right side.

Thorax.

Heart—Pericardium and heart appear normal. Foramen ovale pervious, eustachian valve competent, the ductus arteriosus is pervious, admits readily an ordinary probe. Cavities of heart empty.

Lungs.

Both lungs quite anæmic, otherwise appear normal.

All the thoracic viscera are slightly tinged with bile.

Abdomen.

Spleen appears normal in size and consistency.

Kidneys.

Left kidney normal in size, distinctly lobulated, consistence softish, capsule not adherent. On gross section, surface smooth, cortex a trifle swollen, markings distinct. Right kidney the same. Stomach and intestines appear normal.

Liver.

The liver is a trifle large, and firm in consistence, in color it is pale, and with all the other abdominal organs, its substance is tinged with bile.

On gross section the surface of the liver is fairly smooth, somewhat glistening, and studded throughout with alternating areas of light brown and grayish color. The gray areas presenting a more or less triangular shape.

Gall Bladder.

Collapsed, contains a very small amount of thin light-colored fluid, which is partly mucus, partly bile. The common bile duct is pervious. The cystic duct is pervious. The portal vein is normal and empty.

The bladder is empty and normal. The uterus and ovaries appear normal. These organs are also, however, slightly tinged with bile.

From the gross findings of the autopsy, the cause of the hæmorrhage would certainly seem obscure. A normal heart, an unobstructed portal vein : indeed, no evidence of vascular lesion anywhere. The icterus is equally obscure ; the biliary apparatus being apparently normal. One point of interest in this connexion, however, is the fact that the gall bladder contained but a small quantity of thin bile mixed with

a little mucus, and as the cystic duct was entirely pervious, this would look rather towards a defective secretion, than any obstruction in the gall bladder or its large ducts.

This lack of post-mortem evidence is, I presume, what has led some of the gentlemen, who have from time to time reported these cases, to attribute the uncontrollable hæmorrhage to the "hæmorrhagic diathesis," and it seems probable to me, that in a fairly large proportion of their cases, failure to find a more exact etiology was due to the fact, that their examinations rested at the post-mortem table.

Careful microscopic examination of thin sections of the liver of Dr. Colton's case revealed the following to be its condition, and explained to me satisfactorily the hæmorrhagic tendency in the child. Why the changes found took place is not by any means so clear, as the effects they produced; and there is much room for speculation upon this question.

A series of very delicate sections of the child's liver were cut on the microtome, and stained in alum-carmine. Many of these were then cleared in clove oil, and subjected to microscopic examination, with the result of finding the cells of the parenchyma quite uniformly swollen, granular, containing bile pigment, and their nuclei indistinct or quite invisible. The connective tissue of the portal canals was everywhere increased, and densely infiltrated with small round cells.

So marked was the increase of connective tissue, and so numerous the small round cells, that the vessels of the portal system, the vein, artery, and bile duct—were much compromised, being everywhere stenosed, and in many places completely obliterated. Indeed, the low grade of inflammation involved not only the connective tissue of the portal canal, but the adventitia of the vessels also.

It is a signal fact, that in every section examined, there was not a single normal portal system to be seen; and even in the few portal systems noted, where the bile ducts were still lined with epithelium, these epithelial cells were cloudy, granular, often desquamating and compressed.

Here is the obstruction, which caused without doubt the hæmorrhage in Dr. Colton's case. First, the smaller branches of the portal vein were very markedly obstructed by an interstitial hepatitis, causing necessarily great pressure upon the umbilical vein. Second, the same interstitial inflammation occluded the perilobular bile ducts, preventing thus the elimination of bile; and the bile thus retained, was taken into the general circulation, producing characteristic alterations in the blood and the walls of the blood vessels and the tissues generally.

Examination microscopically of sections of the navel, revealed its surface to be ulcerated, and the tissue infiltrated throughout with small round cells.

These sections were further carefully examined by Dr. Stub for micro-organisms, with the result of finding micrococci infiltrating the tissues, and incorporated within the small round cells to a slight extent. These I also found.

Examination of sections of the liver by Dr. Bates, Dr. Stub, and myself for micro-organisms failed satisfactorily to determine their presence.

Examination of the patient's blood revealed an enormous increase in the white corpuscles, the exact ratio was not determined.

Microscopic examination of sections of the skin at one of the points of hæmorrhage revealed a mass of small round cells in the rete malpighi, with a few red blood corpuscles, and granular detritus, indeed this little spot had many appearances of abscess, the tissues surrounding the mass of cells being seen to be breaking down.

These are all the findings in the case, and from them I think it quite possible to explain rationally the etiology of the hæmorrhage.

What caused the intestinal hepatitis is much more difficult to determine; and yet there are some hints from the results of the autopsy and some general conditions which might explain its origin.

Of the general causes, syphilis should stand first, and tuberculosis next. These diseases are both noted for their fondness for intestinal tissues, and the low grades of inflammation they produce in connective tissue.

Of special conditions which might induce an interstitial hepatitis in infants before or during separation of the funis, it has occurred to me that direct infection might result from a septic condition of the navel. Indeed, we did find micrococci in the tissue of the ulcerated navel of Dr. Colton's patient; and I cannot feel certain that micro-organisms are not present in the liver, because I omitted to take all the precautions necessary in preparing the sections for Dr. Stub's investigation.

If from the prick of a pin, or a mild post-mortem wound on the finger, an epitrochlear gland may enlarge, become painful, and remain enlarged for an indefinite time, I can see no reason why absorption of decomposing material at the site of a separating funis, especially where things are in a condition of moist uncleanness, should not take place very readily. And inasmuch as the family history in this case is perfect concerning any constitutional taint, and there was a condition of ulceration of the navel, which moreover was badly covered in the manner described above by the abdominal integuments, favoring retention of the products of decomposition, it seems highly probable that this was the real cause of the inflammation of the stroma of the liver.

The small hæmorrhagic abscess, the greatly increased proportion of white blood corpuscles in the blood, and the condition of navel and liver, all look towards general septic infection.

This then may be added to the list of causes of these rare cases of hæmorrhage ; and makes it still more improper to ascribe them to the " hæmorrhagic diathesis," without thorough examination, macroscopically and microscopically, of the case.

Therapeusis :

Prophylaxis :

It is seen by what has been already said, that icterus is a prime cause in producing hæmorrhages. It is therefore to be combatted, if possible, from the time of its appearance.

If the jaundice is to be mild, no harm is done by treatment ; and the same is true if the cause is of such nature as to be impossible of removal. These cases will die if you do not treat ; they might therefore just as well die under treatment, because between the mild cases and the fatal ones, grave cases may exist which might respond to good treatment.

Prophylaxis is also found in strict cleanliness around the navel, remembering the fact that these conditions may result from infection of the navel with the products of decomposition. Indeed, such seems a very probable factor in Dr. Colton's case.

Grailey Hewitt advises, that a good respiratory act be insisted upon. He further advocates mechanical friction over the hepatic area with a stimulating liniment, and internal exhibition of calomel in small doses, followed by castor oil at intervals.

To this, Glaister would add gentle stimulation of the skin and kidneys.

I think to these might properly be added ipecac as a fine gland stimulant, and the muriate of ammonia for its possible solvent effect on inspissated mucus.

If hereditary syphilis be evident, the lesion will likely exist in the stroma of the gland, and antisiphilitic treatment would seem to offer the best chances.

The treatment of the immediate hæmorrhage is carried out upon surgical principles of hæmostasis.

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DISCUSSION.

Dr. THAYER.—Mr. President, I do not know that there is a great deal to be said on this subject. These cases are so extremely rare that hardly any medical man has seen them or has given them any thought. The paper that Dr. Van Cott referred to, read before the Brooklyn Pathological Society, and published in the *N. Y. Medical Journal* three years ago, seems to have escaped the observation of the profession generally, as I infer from a paper by Dr. John Blake White of New York, who within the last month or two related a similar case, but under the name of "Jaundice of the New-born," with all the symptoms referred to, in which he makes no allusion to any papers gone before. There is probably not one physician in a hundred, who has been in practice for forty years, who has ever seen or heard of a case, and four papers have been written on this subject in this country; each one, however, including all the cases of the previous ones, so that the paper of Dr. Jenkins, of Yonkers, a few years ago, included the 175 cases that had been reported up to that time.

This matter of the micro-organisms has never been observed by any one before Dr. Van Cott; of course it is impossible to say whether they existed in any of those cases, as the whole subject of micro-organisms is so recent.

In all cases where there was hæmorrhage, except a few cases of general fatty degeneration, there was either a disease of the liver, interfering with the secretion of bile, or a greater or less obstruction of the bile ducts, from entire obliteration down to mere plugging of the ducts with inspissated mucus ; so that there was no question about the cause of the trouble.

In all those cases icterus occurred first ; and then, after two or three days, continuous hæmorrhage began from the navel, about the time the umbilical cord was separated. The average time of death was about the eighth day.

Dr. JEWETT.—I might call attention to the fact that in the literature of this subject the hæmorrhagic diathesis has been supposed to account for the hæmorrhage in certain cases, from the fact that it has seemed to be hereditary. The matter of the presence of microbes, referred to by Dr. Van Cott has been presented for the first time this evening and yet it is well known that an infectious germ sometimes originates at the umbilicus.

In regard to the connection that syphilis has with these hæmorrhages the writer has given a very prominent position to this cause, and yet this too has been considered a matter of somewhat doubtful bearing upon the etiology of umbilical hæmorrhages and attention has been called to the fact that icterus in these hæmorrhages of syphilitic origin is rare.

Dr. THAYER.—In these cases there was no evidence of hæmorrhagic diathesis in any family ; the evidence is very strong that that does not enter as an element at all. Dr. Jenkins particularly refers to that in his cases, and the bleeding is easily accounted for without anything of the kind. Here is simply an obstruction to the discharge of bile ; the retention of bile in the blood prevents coagulation, and therefore prevents the occlusion of the umbilical vessels ; hence the hæmorrhage.

Dr. Cox.—I would like to add a case of umbilical hæmorrhage which occurred in my practice several years ago.

I think this was the third or fourth child and the previous ones had been still-births. The hæmorrhage occurred about the third day I think, before the cord had dropped off entirely. When I first saw the case the child was almost exsanguinated but I succeeded in stopping the hæmorrhage by pressure, and the child ultimately recovered and is now well and strong, although I have not seen it for several years ; I afterwards ascertained that the father has a syphilitic history. In regard to the jaundice as I remember it now, I do not think there was any, if there was it was not at all marked.

Dr. THAYER.—In regard to the curability of some of these cases, and the ground on which it depends : The obstruction is sometimes an

absolute obliteration of the duct, as in the case on which I based my paper. The common duct was a thread, absolutely impervious, resulting probably from inflammation; but in many cases the ducts are perfect, but they are plugged with inspissated mucus.

Out of the 178 cases reported, about 30 survived in whom the ducts were pervious; which affords an indication for treatment; and the treatment has generally been, as Dr. Van Cott stated, by cathartics, particularly mercurials, and dilute nitro-muriatic acid.

Dr. VAN COTT.—There is one remark I would like to make in answer to Dr. Jewett's statement in regard to the fact that icterus does not usually complicate cases of syphilitic origin.

I think that inflammation of the connective tissue results in hypertrophy of the connective tissue, and hypertrophy of the connective tissue results in pressure not only on the bile ducts reducing the passage of bile through the ducts, but it involves the passage of blood through the vessels. I think that the pressure on the blood vessels of the liver causes a damming back in the circulation back of the liver so as to favor more readily the occurrence of the umbilical hæmorrhage. It is partly blood vascular as well as biliary in its nature.

MALIGNANT TUMOR OF THE THYROID.

BY E. C. MASON, M.D.,

House Surgeon St. Mary's Hospital, Brooklyn.

Presented to the Brooklyn Pathological Society, Feb. 9th, 1888.

Dr. Mason said this tumor originally commenced as a bronchocele and afterwards degenerated into a round celled sarcoma of the thyroid gland. The history is as follows: Harriet A., æt. 55, single, native of United States. About two and a half years ago the patient first noticed a small lump, about the size of a nutmeg, low down on the right side of her neck. It grew very slowly indeed until last June, seven months ago, when it commenced to increase in size very rapidly, until her admission to the hospital, when it was as large as a child's head. It extended from a line corresponding to the external auditory meatus on the right to a line corresponding with the angle of the lower jaw upon the left, and involved the whole length of the neck. It had pushed the larynx, trachea and œsophagus very much to the left, the larynx being on a line corresponding with the angle of the lower jaw. Breathing was difficult and audible and suggestive of abductor paralysis, and was becoming

more difficult and more audible as each succeeding day passed. The exceedingly rapid growth of the tumor made Dr. Rockwell quite positive it was malignant, indeed during the four days preceding the operation it grew quite perceptibly.

January 12th, 1888. The operation. It was the intention to perform Kocher's operation, i. e., to dissect behind the tumor and secure the superior and inferior thyroid arteries, thus controlling the principal sources of hæmorrhage and then dissect the tumor out.

The patient was anæsthetized with chloroform followed by ether. The parts were cleansed with a solution of 1-6000 biniodide of mercury; an incision was made, extending from just below the external auditory meatus on the right nearly to the right sterno-clavicular articulation, and the skin dissected back. The tumor was exceedingly vascular, but every point of hæmorrhage was carefully tied with silk as the operation proceeded. On account of the abnormal situation and condition of the different structures, the superior and inferior thyroid arteries were not identified, but were certainly tied, and among other vessels the internal carotid artery was tied about midway between the bifurcation of the common carotid and its turn at the neck of the condyle of the lower jaw. During the operation the capsule gave way at one point, and a quantity of medullary matter oozed up. By this time the greater part of the mass, including the lower portion, which dipped down behind the clavicle, was free and ready to come away, but the base remained immovable. An examination with the fingers showed prolongations between the tumor and œsophagus and œsophagus and vertebræ.

As the operation had been very tedious and prolonged, and the patient was growing weaker and weaker, it was resolved to throw a stout ligature of silk around the base of the tumor and remove the part above it with the cautery, but the ligature could not be drawn sufficiently tight to control the circulation through the tumor.* Before this time the operator had become thoroughly satisfied that the tumor could not be removed, and as the patient (although she had been freely stimulated with whiskey and tinct. of digitalis hypodermically) was fast sinking, the operation was abandoned; and as the operator was closing the wound transfusion was practised by Dr. Geo. R. Fowler, after Braxton Hicks' method, sixteen ounces of the fluid being injected into the left radial artery with very noticeable improvement. The patient was removed to her room, and died in about an hour.

The tumor was removed next day, post-mortem. An examination showed the whole length of the common carotid artery, all the other

* Dr. Enrico Marconi (Lo Sperimentale, Nov., 1887,) records a case saved by this means.—*Am. Jour. Med. Sciences*, Feb., 1888, 195.

important blood vessels of the right side of the neck and the trachea to be included in the mass of tissue composing the growth, and the only way of removing the tumor successfully, would have been to have tied the arteria innominata, and then to have dissected it out.

In commenting upon the above case, Dr. F. W. Rockwell said :

It seems proper, in view of the fatal results in this case, to give a short account of its history and the reasons which induced me to attempt so hazardous—it would almost seem foolhardy—an operation as that of removing so formidable a growth. I first saw the patient in my office four days before the operation. She was brought to me by a medical friend, who had carefully explained the risks of any operative procedure to her, and upon my expressing the fear that the growth was malignant, and that its removal would, if successful, only prolong her life a short time, she retired to think the matter over. On my next interview, the day previous to the operation, I felt certain that the growth was malignant, as it had markedly increased in size, but as the patient was rapidly developing suffocative symptoms, and tracheotomy or intubation was impossible, I assented to her urgent request to operate, even if she should die on the table.

In this I certainly think I was justified, as even in the event of an immediately fatal issue, I should but hasten her death by a few days, and certainly save her the agonies of a death by suffocation. When the operation was about half completed, I began to feel that success was impossible, as I had stripped away the lower lobes of the growth from the pleural dome and subclavian on the right side, had tied the internal carotid, and both thyroid arteries, the external jugular and many smaller veins, and still had failed to loosen the deeper connections of the growth. Even after severing the ribbon muscles over the front of the tumor, I still failed to move its base, and then a careful exploration with the finger toward the median line revealed its connections with the trachea and œsophagus, and I attempted as a last resource the ligature of its largest lobe, and its removal with the cautery, with the hope of relieving the pressure on the trachea and recurrent laryngeal nerve, and so producing euthanasia. The statistics of this operation, according to the latest authority, Butlin, are very bad. He reports a mortality of sixty per cent. from the immediate effects of the operation itself, while of the whole number of cases operated upon, the ultimate result was death in fully ninety-six per cent. He concludes, therefore, that attempts to remove malignant growths of the thyroid are unwarranted except in thier earliest stages, and in this opinion I fully concur, though for the above reasons I made an exception in this case.

Dr. FRENCH.—It is difficult to understand that so large a mass of

tissue, occupying the entire anterior portion of the neck, should not have exerted enough pressure upon either the pneumogastric or recurrent laryngeal nerves to cause paralysis of some of the laryngeal muscles. Had the abductor muscles been impaired, the voice would have been lost. I understand, however, that the voice was fair, not much affected. If the abductor muscles were paralysed, the voice would not have been much affected, but the area of the glottis would have been greatly decreased, and, consequently, the respiration much embarrassed. It would have been interesting to know whether such a condition existed. Dr. Rockwell kindly invited me to make a laryngoscopic examination, but I was prevented from reaching the hospital till it was too late to do so. I understood Dr. Rockwell to say that he did not consider the operation for the removal of the thyroid, when it was the seat of cancer, justifiable except in the early stages. Butlin, in his recent work on "The Operative Surgery of Malignant Disease," expresses the same opinion. This writer gives the causes of death from cancer of the thyroid as suppuration and gangrene, exhaustion and the production of cancerous cachexy and suffocation. Now ought not a distinction to be made in favor of that class of cases, which, if not relieved, die of suffocation? The statistics presented by Dr. Rockwell show that the percentage of recoveries is small, but it is not much, if any, smaller than for laryngectomy, which is not considered unjustifiable, even though tracheotomy is almost always possible. Tracheotomy is rarely, if ever, possible in the advanced stages of cancer of the thyroid. Even if death occurs as the result of an operation for the removal of the growth, the patient is at least spared the agony of death by asphyxia.

A NEW ALKALOID.

BY R. G. ECCLES, M.D.

Read before the Kings County Pharmaceutical Society, February 14th, 1888.

This is an age of new remedies. *Materia Medica* is constantly extending its bounds. The additions are both useful and useless, but the inexorable law of the survival of the fittest weeds out the worthless and preserves the worthy here as in other lines of progressive development.

I have the honor to present to you this afternoon a new member of that potent class of therapeutic agents known as alkaloids. The shrub within whose seeds I discovered this, was during the late civil war

used in decoction of roots, leaves and bark by the Confederate soldiers for the cure of intermittent fever and, as claimed, with success. It is still used in domestic practice by the natives of the region where it grows. A fluid extract of an allied species is already upon the market, so that somewhere in the country it is being prescribed for some purpose. If in its crude form it has proven of advantage, this new concentrated form should be still more efficient. The seeds contain nearly two per cent. of this alkaloid and a smaller amount of probably two others. The odor of the volatile one of these last is distinctly that of pyridine, an alkaloid of tobacco, and as it is unlikely that two should exist having the same smell, we may at present assume it as probably such.

The second fixed one was procured by percolation with very dilute sulphuric acid after exhaustion with strong alcohol, and, unlike the first, appears to be soluble in and perhaps destroyed by ammonia.

Solution of caustic soda had to be used in its extraction. The seeds are highly charged with a bland, sweet oil, that could readily be substituted for the product of the olive, and as they contain eighteen per cent., it is not at all improbable that it should become an article of commercial importance. Over one-sixth of the total weight of the seed is oil.

My attention was first called to this subject at the December meeting of the Torrey Club by the reading of a paper by Mr. E. E. Sterns, a New York botanist, on the alleged poisonous properties of the seeds of a plant sent him for identification from the Cumberland Mountains of Tennessee, where they were locally known as "bubby." He identified them as those of *Calycanthus glaucus*, Willdenow. The shrub is known in various sections of the South as Carolina allspice, Florida allspice and sweet-scented shrub. I took some of the exhibited fruit home for chemical examination, and subsequently received an additional small supply of the seed by mail from Mr. Sterns.

In December and January, pressure of other work forbade my entering into an investigation. Since the opening of the present month, and during a few days at the close of last, the work of isolating and studying this alkaloid has occupied most of my spare time, and although the task is but begun, it is deemed advisable to report results now.

These so-called "bubby seeds" are declared to be fatal to cattle and sheep that eat them while browsing in the woods. After chewing down a head or two of the dry fruit, they act as if drunk or insane, and finally die. One gentleman reports the loss of a sheep last month in this manner. On dissecting it, he found a large number of partly digested seeds in its stomach. It is now highly probable that the country people are right in considering them poisonous, although

botanists for a century or more have considered them innocuous. Their starch, albumen and oil would render them excellent fattening food for animals, but for the poisonous constituent, and it is likely that the after taste of slight sweetness lures hungry cattle to feed upon them in spite of the bitter.

The fruit is about the size and shape of a pear, but contains no pulp, being merely a dry, brittle shell within which twenty or more large dark brown achenia are found. As they are loose it could be used for a rattle-box for a child. The achenia are about the size and shape of those from a large sunflower but shorter in proportion to their length, and rounder at the ends. For a long time *Calycanthus Florida*, an allied species, has been prized as a garden shrub, but no one has ever thought of seeking for an alkaloid in the seeds of any of them. The leaves, bark and flowers of all are well charged with an essential oil that makes them merit the title, "sweet-scented shrub." The flowers are of a purplish-brown or chocolate color, and when squeezed emit an odor very much like that from strawberries. They are quite large, being nearly two inches in diameter. The shrub is from six to eight feet high, and grows abundantly in the shaded woods that flank the mountains of Tennessee, North Carolina and Georgia. The leaves grow in pairs upon the stem, each being directly opposite the other. They are dark green and roughish on the upper surface, but quite smooth beneath, and no serration or indentation of any kind occurs along the edges. • The genus *Calycanthus* has three species in the southeastern part of the United States and one in California. The three Atlantic Coast ones are by some botanists considered mere varieties of a single species so near akin are they. Other species are found in China and Japan. The widely separated stations thus occupied favor the opinion first advanced by Dr. Asa Gray that the Eastern Atlantic and the Eastern Asiatic flora had a common origin at the time the North Frigid Zone had a temperate climate. The name proposed for the new alkaloid is *Calycanthine*, after the name of the genus of plants from which it is derived. Should it prove efficient in the cure of intermittent fever, it will be an economical remedy, as the dose will necessarily be small, and the price should certainly be low when there is so large a proportion present in the seed. It has not yet been put to any physiological tests of importance. On one trial with two of the seeds it was found that the pulse had risen fifteen beats per minute three hours after eating them. With most alkaloids there is a dearth of tests for identification, but fortunately this is not the case with *Calycanthine*. When brought in contact with strong sulphuric acid it becomes yellow. If a little strong hydrochloric acid is applied to the dry alkaloid or its salt, a pale canary yellow first appears

which gradually passes into a beautiful orange. On touching it with strong nitric acid there is immediately developed an olive green color. Combining strong nitric acid and strong sulphuric acid in about equal proportions and touching it with the same, we at once secure a very dark green, which on dilution becomes a handsome grass green. With strong sulphuric acid and test solution of bichromate of potash, successively applied, there is brought forth a bright rose red. When strong sulphuric acid and sugar are together brought in contact with it we secure a lovely pink red.

NOTE.—Since the above report was made of Calycanthine, the writer has discovered the presence of an alkaloid in *Cascara Sagrada*. The quantity present is small, and although several eminent chemists have been at work upon the bark of this plant for some months past, it has eluded them.

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EDITORIAL.

THE NEW YORK PHYSICIANS' MUTUAL AID ASSOCIATION.

The nineteenth annual report of this Association, which has just been published, shows it to be in a very flourishing condition. During the past year the sum of \$4,043 has been paid to the heirs of nine deceased members, at least four of whom were Brooklyn physicians. The present membership is 471, of whom 116 reside in Brooklyn. The Association is one of which every physician should be a member, whether looked at from the point of view of an investment, or as affording an opportunity to aid in the most useful way the families of our deceased professional brethren at a time when assistance is most needed. It is a well known fact that, as a rule, physicians are poor business men, and it often happens that when death comes, although large amounts of money may appear on their books, yet the amount actually in hand to pay funeral and other immediate expenses is very small. At such a time the \$450 which this Association now pays to the family of its deceased members immediately upon their death represents a payment of double that amount at any other time.

Another valuable feature of this association is the financial aid which it gives to its living members, when through sickness or other misfortune their professional life is brought to a halt. Were the seal of secrecy broken many a tale could be told of comfort and relief administered, even in our own midst, to an unfortunate brother in the day of deep distress. We sincerely hope that when the twentieth annual report of this Association is published it may contain the names of all the physicians of Brooklyn.

A GRAVE MISTAKE.

The removal by the Health Commissioner of Dr. W. E. Griffiths and Dr. E. H. Bartley cannot but be regarded by the medical profession of Brooklyn as a grave mistake, the effect of which may be more serious and far-reaching than at first appears.

Dr. Griffiths first entered the health service as vaccinating physician in 1874, when the medical commissioners of the Health Department were Dr. J. C. Hutchison and Dr. J. T. Conkling, the Sanitary Superintendent being Dr. Avery Segur. Trained in such a school as this he almost from the very first became prominent in the efforts of the Board to eradicate small-pox, and from that time till the present he has been a tower of strength in every administration of the public health, irrespective of the political complexion of the Board, or of the commissioner in power. In our February number, in speaking of "Small-Pox in Brooklyn," we expressed the gratification which we believed to be universal in the medical profession, that Dr. Griffiths was still in the department, saying that he had, during his twelve years' connection with the health service of the city, been repeatedly called upon to cope with small-pox and had always been equal to the task. Such an experience as his is not possessed, so far as we are aware, by any other member of the profession in Brooklyn, and therefore the value of his services can not be over-estimated. Cases of doubtful diagnosis as between small-pox and other diseases constantly appear during the prevalence of small-pox, and it is oftentimes a matter of the greatest importance that a speedy and accurate decision should be reached. If the case be small-pox, the sufferer must be at once removed from a crowded boarding or tenement house, or perhaps from a school or asylum at which hundreds of children are gathered; while if it be only chicken-pox or some harmless eruptive disease, to remove such a patient to the pest-house would be a crime. It is in such emergencies as these that Dr. Griffiths' services were of special value, and always equal to the emergency. There may be some one in the profession who can fill his place, but we do not know the man, and doubt if he can be found in Brooklyn. The removal of Dr. Griffiths is a grave mistake, and we fear that this will appear as plainly to others in the future as it does to us at the present time.

Equally unfortunate is the removal of Dr. E. H. Bartley. Although not for so long a time in the Health Department as Dr. Griffiths, yet during his incumbency of the office of chief chemist his services have been equally valuable, though less conspicuous. To protect the public

from impure milk and adulterated food is no less important than to guard it against pestilence. During the years that Dr. Bartley has been in the service of the city, he has become familiar with the multifarious methods of the tricksters, who for gain will sacrifice the health, and if necessary, the lives of the community, by feeding cows on swill-milk in filthy and unventilated stables from which they are not moved for months at a time, or by coloring coffee, peas or other foods with poisonous coloring matters. We will guarantee that when Dr. Bartley's removal became known there was great rejoicing among the venders of watered and skimmed milk, the manufacturers of "greened" pickles, who employ copper in the process, the soda water dealers who still use the tin-washed copper storage fountains, the manufacturers of macaroni who color the product with poisonous chromate of lead, the grocers who desire to continue the sale of beans, peas and other vegetables colored with copper in poisonous quantities, in short, among all those who, so long as more money can be made by dishonest methods than by those that are honest, do not hesitate for one moment to imperil the health of the babe just weaned from its mother's breast, or that of the father to whose labors an entire family looks for support. The encouragement which these vampires will receive from such an act as the removal of as tried, skillful, and experienced a public health official as Dr. Bartley can not be measured.



THE BIRTH-RATE OF BROOKLYN.

The report of the Secretary of the Department of Health, containing the vital statistics of Brooklyn for the year 1887, which was published in the February number of the *BROOKLYN MEDICAL JOURNAL*, states that there were reported to that department 17,078 deaths and but 12,750 births during the year. In referring to the reports for previous years, the same difference between the reported deaths and births is found. To one not familiar with all the facts it would seem to be only a question of time when Brooklynites, like the Indians of the far West, would soon be an extinct people, known to posterity only through such monuments as the Brooklyn Bridge and Prospect Park. The census, however, tells us that the population of Brooklyn is increasing at the rate of not far from 20,000 annually. If the statistics of the Health

Department are correct, the increase can be due to but one cause, and that is immigration.

That large numbers of families and individuals are constantly coming to Brooklyn to make it their residence, attracted by its excellent schools, its pure water, and the thousand and one advantages which it offers to those in search of a "home," there is no question. But it is in this remarkable attractiveness of Brooklyn, due in great part to its sanitary condition and its salubrious location, that may be found the strongest argument that there cannot be in fact such a discrepancy between the deaths and the births as appears in every report of the Health Department since the days of the earliest records. All the Registrars of vital statistics connected with this department for many years back unite in declaring that the mortality statistics of Brooklyn are perfect so far as the number of deaths is concerned; that is to say, that every death which occurs in Brooklyn is reported to the Health Office. The opinion is equally unanimous that the births are but imperfectly reported. In a very valuable report published in 1885, by Dr. R. M. Wyckoff, who was for so many years the able Registrar of Vital Statistics of Brooklyn, he estimated the actual birth-rate of the city to be 38 per 1,000; whereas, for a period of ten years, the annual average reported rate was but 18 per 1,000, the inference from this being that less than one-half of the births which occur in the city are reported. Dr. John S. Billings, U. S. A., one of the best authorities on this subject, in a personal letter to one of the editors, says: "I should suppose that the birth-rate in Brooklyn ought to be between 33 and 35 per 1,000 of population; say 34. In the census year, 1879-'80, the total number of births reported in Brooklyn was 17,315, which, with a population of 566,663, gives a little over 30 per 1,000. The average deficiency in birth returns thus collected I have estimated at 15 per cent." The plan followed by Dr. Wyckoff, by which he arrived at 38 per 1,000 as the proper birth-rate for Brooklyn, was to take the census figures for deaths under one year, under two years, etc., for a period of five years, and divide them by the number of years. He subsequently ascertained that Dr. Farr, the Registrar General of England, had employed a like method to work out a vital problem, and he therefore felt the more confident of the result which he obtained. If we adopt as the probable birth-rate the mean between the figures of these two excellent authorities, namely 36 per 1,000, we find that, whereas in 1887, with a population of 751,000, there were reported but 12,750 births, there actually occurred in the city 27,036 births during the twelve months ending December 31st.

These figures being conceded to represent the facts as they exist in Brooklyn, the two questions which suggest themselves are: (1) Is there

any advantage to be gained by having as complete returns of the births which occur in the city as we now have of the deaths? (2) If so, how shall this be accomplished?

As bearing upon the first question, we would quote from the report of Dr. Wyckoff, to which we have already referred. "From this latter omission (the omission to report births) flows a variety of losses and disappointments that cannot be realized by any person not conversant with the workings of this or some similar branch of the public service. With regard to many settlements of property and lineage, the law demands proof of the events of birth and marriage, and yet the law virtually leaves it optional to a great degree whether the proof thereof shall be publicly recorded at or near the time when the events occurred. Many applicants for transcripts of such records leave the Health Office mournfully, perhaps in tears, because of some omission to record a birth or marriage. It frequently happens that the legitimate disposition of enormous sums of money hinges upon the proof of a birth or marriage. The poor pensioner of our general Government is obliged to show, by transcript from our records, the facts of birth, death, and the like, necessary to establish his identity and family relations, and much disappointment and misery may result from the non-reporting of cases." Had we space, many more arguments from the reports of Dr. Wyckoff, and from other authorities, might be quoted to show that our first question should be emphatically answered in the affirmative; that great and lasting advantages would result from a full report of the births which occur in the city.

In regard to the second question there is not the same concurrence of opinion on the part of those concerned. It is claimed by some that physicians cannot be expected to make returns of births unless they are pecuniarily recompensed. The Sanitary Code, Section 153, makes such returns, within five days after the birth, obligatory, and the same code provides a penalty if the section is not complied with. In writing on this subject, Dr. Wyckoff says: "The system that has been in use in recent years has been to all intents a *voluntary* system; for while under existing law a penalty attaches to the non-reporting of these events—it is in point of fact a misdemeanor—the popular opinion of this kind of returns is so low and poor that no municipal officer would be sustained in the systematic prosecution of those who are delinquent in these regards. The community has not as yet been educated up to the point of regarding this kind of registry at its full significance and value, and the few attempts that have been made to enforce it have been void of good results and have been commonly regarded as arbitrary and vexatious. In other cities having the same system, the experience has all been in the same direction."

Who will solve this problem for Brooklyn? We shall be glad to publish the views of physicians and others interested in the important and as yet unanswered question ; How shall a complete report of the births which occur in Brooklyn be obtained ?

UNPUBLISHED PAPERS OF BROOKLYN PHYSICIANS.

Since 1883, when the "Proceedings of the Medical Society of the County of Kings" was discontinued, many papers of great value have been read before the various societies of Brooklyn by its physicians, but few of which have as yet been published. In order that these papers may be preserved, the Editorial Committee requests that copies of them be sent to the JOURNAL for publication.

BROOKLYN VITAL STATISTICS.

At the request of the Editorial Committee, Dr. R. M. Wyckoff, former Registrar of the Department of Health, has prepared a form of report of the vital statistics of Brooklyn, which Dr. J. S. Young, Deputy Commissioner of Health, has kindly consented to fill out monthly for publication in the JOURNAL. In this number will be found the first of the series, the report for the month of January.

PROCEEDINGS OF SOCIETIES.

THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

A regular monthly meeting of the Medical Society of the County of Kings was held in its rooms, 356 Bridge Street, on Tuesday evening, February 21, 1888, Dr. Wm. Wallace, President, in the chair, Dr. W. M. Hutchinson, Secretary.

There were about one hundred members present. The Council reported the acceptance of Drs. William C. Murray, E. S. Rupert, J. L. McCumber, Wales L. Cary, and Arthur Conklin Brush.

The following gentlemen were proposed for membership: Drs. Joseph O'Grady, Henry B. Reed, Reuben Jeffrey, Jr., Lefferts A. McClelland, and C. A. Canfield.

Dr. George R. Fowler then read a paper on "Surgical Fever," which was commented upon by Dr. Pilcher.

The second paper of the evening, entitled "Infantile Umbilical Hæmorrhage, with report of case," was then read by Dr. J. H. Van Cott, Jr.

This paper was discussed by Drs. Thayer, Jewett, Cox, and Van Cott.

The committee appointed at the annual meeting, "to memorialize the Common Council in regard to the unjust discrimination with reference to typhoid fever," reported, through Dr. Bartley, as follows:

"The committee appointed at the annual meeting of this Society present as their report the following preamble and resolution:

"*Whereas*, The restrictions placed on *typhoid fever* by the Health Department impose a costly, annoying and unnecessary burden upon children attending schools and upon the friends of those who have died of this disease; therefore

"RESOLVED, That as the contagion of typhoid fever is not communicable through a third person, or by the bodies of persons who have died of the disease, it is our opinion that the restrictions placed on other contagious diseases by Secs. 142 and 150 of the Sanitary Code should not apply to this disease; and

"RESOLVED, That this Society, while maintaining the importance of reporting such cases to the department, respectfully recommends that the above-named restrictions be removed in cases of typhoid fever."

(Signed) E. H. BARTLEY,
ERNEST PALMER,
F. H. COLTON.

Dr. BARTLEY.—Mr. Chairman, in presenting this report I would say for the committee that they would desire, that they would earnestly

request some discussion upon it. Very often such reports are simply passed without discussion, and I should feel that it would lend a great deal of weight to the report to have it fully discussed before a vote is taken, so we shall get a pretty general opinion on this subject. It is one that interests us as well as the public at large, and one that a great many physicians have felt for a long time was an unnecessary restriction, and if that opinion is pretty generally expressed here, it will go with the report as bearing a good deal of weight; the mere report without any such discussion, adopted to hurry through business, is not a thing to be desired.

I wish also to say that in presenting this report, I do so as a private individual, and independent of any connection with the Health Department.

Dr. PILCHER moved that the report be adopted.

This motion was seconded.

Dr. HARRIGAN.—I would like to say that I am informed that in answer to an inquiry made no later than yesterday, the Department stated that they did not exclude children from the public schools. If that is true, the passage of these resolutions seems unnecessary.

Dr. THAYER.—I think, Mr. President, there must be a mistake about that. Within the past week one of my patients complained of the grievance imposed by the health laws upon a friend, who unfortunately lost a member of the family from typhoid fever. They were required to bury the body within twenty-four hours, and all the other restrictions imposed upon people suffering with contagious disease were also imposed.

Dr. BARTLEY.—We have with us two gentlemen who have been connected with the Health Department in a very prominent way, and I should like to hear from them.

Dr. OTTERSON.—I do not know that I can add anything to the subject, except to say that my impressions are that the provisions in the Sanitary Code are positively and continually carried out. Where patients have died with surroundings that in the judgment of the head of the department will admit of it without danger to the other parties, a discretion is allowed in the keeping of the remains. The twenty-four hour law is not absolutely insisted upon there, but where these deaths occur in houses where there are more than one family, they are carried out unless there is some pretty good reason to the contrary. I am not able to state the author of those provisions in the Sanitary Code, but I am able to state that the complaints that come to the department continually, both through correspondence and by personal application, complaining of typhoid fever cases in their vicinity, are constant and persistent. I would not pretend to mention to you the

number of complaints which are made that typhoid fever exists in such places, and the neighborhood absolutely require the quarantine of the patient.

Now, as has been stated to me in conversations by members of this Society—one gentleman in particular, who is opposed to having any restrictions whatever laid upon cases of typhoid fever—that this is a matter of public education originating in this Sanitary Code—very much all the provisions that are required of patients with typhoid fever. One very prominent member of this Society thinks everything pertaining to it should be stricken from the Code, and that no more attention be paid to it than catarrh. I think if the restrictions were removed from these cases, that it would bring down a tremendous howl from the community at large.

I do not know that any one could lay down a case where B. took it from A., and there are a great many cases of contagious disease where the same conditions exist; at the same time there are very few persons who would be willing to expose themselves to members of a family with typhoid fever during its existence if they were able to prevent it.

Dr. THAYER.—It seems to me that the statement that Dr. Otterson has made furnishes the very strongest ground possible for the passage of these resolutions, for there is no question that the public have very erroneous ideas which they have received from the action of Health Departments on some of these points.

There is no gentleman here that doubts for a moment the absurdity of quarantining the typhoid fever patient or of keeping the children of the family from going to school, and it seems to me, sir, that the passage of these ordinances and their enforcement and the publicity of the restrictions has created this panic in the community about it, which is entirely unnecessary. I think we could help to remove it, if the Society took definite action of this kind and made it as public as possible. When the people understand what is to be feared and what the limitations are, they will very soon learn that it is not carried in the air from one person to another, and that under ordinary circumstances if proper attention is paid to the removal of the discharges, it cannot be transmitted even in the room where the patient lies. I think we cannot speak too forcibly on this subject for the purpose of setting the community right.

Dr. READ.—I fully agree with Dr. Thayer. It has seemed to me that the whole question hinges on whether we believe it is contagious or not. As we do not believe that we ought to set our faces against anything which continues to educate the public in this belief. Dr. Otterson says it is a matter of public education—we are supposed to be

educators in matters of this sort, the Board of Health is supposed to be but the reflex of prevalent medical opinion throughout the country. We all agree that it is not contagious and cannot be carried from one to the other. The restrictions that concern it as a contagious disease are severe and have produced discomfort, and certainly if we are to educate the public, we should begin by setting our face against this belief, at least, and do what we can to have these restrictions rescinded.

Dr. RAYMOND.—I may say, Mr. Chairman, with reference to contagious diseases, that the Sanitary Code undoubtedly calls for the reporting of typhoid fever to the Health Department. It has been so from the time of the Metropolitan Board of Health. For many years nothing was ever done with these reports, whether they were scarlet fever, diphtheria, measles, or typhoid fever. When small-pox was reported, efforts were taken to prevent the spread of the disease. There came a time, however, when public and professional sentiment seemed to demand that contagious diseases other than small-pox should receive the attention of the Board of Health. Diphtheria and scarlet fever were then treated the same as small-pox. In all cases reported, the Health Department investigated them and endeavored to exclude, so far as they could, from attendance upon the public schools, members of the family who were liable to carry contagion. Still later, measles was added to the list of diseases in which the Health Department deemed it necessary to take preventive action. If I am not mistaken, typhoid fever was never placed with those diseases. I am sure that during my connection with the Health Department as superintendent and as commissioner, there never was a child excluded from the public or private schools coming from a family where typhoid fever existed. The question came up quite early in my connection with the department as commissioner, whether we should require private funerals and funerals within twenty-four hours in cases of typhoid fever, and I took particular pains to ascertain the prevailing opinion among sanitarians, and I remember distinctly writing to the Secretary of the State Board of Health, Dr. Carroll, and I never was able to see any valid reason for requiring typhoid fever funerals to be private or to take place within twenty-four hours, and I know of my own personal knowledge of a number of public funerals of typhoid fever taking place in private houses, attended by a large number of people, very many of them my own personal friends and relatives, and I made it a special subject of study to see whether I could trace in any single instance the spread of the disease from any of these public funerals, and I failed in every instance.

I presume it is recognized at the present time that perhaps the only

danger is in the excreta ; and if physicians are careful in adopting disinfectants that are true germicides, not simply deodorizers, and if they and others in attendance upon typhoid fever patients are conscientious and thorough in their methods of disinfection of these discharges, I think we need never fear the spread of the disease from the patient.

The City of Brooklyn has been, so long as we have had records, a place where typhoid fever has prevailed more or less ; and knowing as we do at the present time that typhoid fever is a germ disease, and knowing as we do that there is no such thing as a destruction of the vitality of these germs except by powerful agents, we have every reason to believe, I think, that the sewers of Brooklyn are foci for the spread of this disease.

In the continued prevalence of the disease in Brooklyn in 1885, over and over again these facts became very clear to me, and I think that, beyond the possibility of a doubt, cases of typhoid fever have been traced, as directly as any disease could be traced, to the public sewers, to imperfect drainage and defective plumbing in houses.

A case would break out in one house, and in two or three weeks it would appear in the adjoining houses ; and in almost every instance during the investigation, which is the basis for that statement (there were some fifteen hundred houses examined)—in almost every instance where a case of typhoid fever was found in a house, I think without exception, there was a condition of the plumbing which would account for the entrance of sewer air, so that if the air of that particular sewer was infected with typhoid fever, we could understand how it might find its way into the house, the sewer air serving as a carrier of the germ. It seems to me, therefore, that the resolutions of the Society are proper ; that there is no reason why we should have a private or a twenty-four hour funeral in cases of typhoid fever, especially provided that care has been taken to thoroughly disinfect the discharges. There are cases perhaps when such restrictions would be necessary. I know of repeated instances where nurses have contracted the disease ; what has been the method of disinfection in the cases which they were attending I do not know. In the epidemic of 1885 we ascertained that the methods of disinfection practiced in most cases were utterly unreliable ; disinfectants were used which had no power to disinfect the discharges of typhoid fever. If you look to-day at the literature in the medical journals, you will find disinfectants, endorsed by some of the best physicians, which are utterly unreliable. It seems to me, therefore, that we will do the public a great deal of good if we will adopt disinfectants which are actual germicides. The recommendation of the Committee of Disinfectants of the American Public Health Association was that the bichloride of mercury should be used,

and that it should be left in contact with the discharges for at least four hours; it takes time for disinfectants to act. And if the Society, in addition to the steps it takes in these resolutions, would recommend, through its Committee on Hygiene, the adoption of these disinfectants which are not proprietary, which every one can make for himself at a less cost than those which are for sale, I think we will accomplish a great deal of good in the City of Brooklyn.

Dr. BENNETT.—Mr. Chairman, while I do not think a third party can convey typhoid fever, I do not know why a body dead of typhoid fever, unless the alimentary canal has been disinfected, might not be a source of infection.

Dr. RAYMOND.—When we are making restrictions for a large number of people, which entail expense and mental suffering, we ought to have something positive. There is certainly no literature that I know of which shows that typhoid fever may be communicated in that way. In the absence of such testimony, I think we are hardly justified in taking those steps.

Dr. BARTLEY.—I would like to ask Dr. Raymond if he would care to offer an amendment to these resolutions stating the importance or urging the importance of disinfecting the discharges. I certainly think it is a very important matter, and one that is neglected by very many physicians. I have seen cases of typhoid fever where the attending physicians made no attempt whatever to disinfect the discharges; and it seems to me, in the light of the evidence that Dr. Raymond has brought forward, it is almost criminal to pour those discharges into a sewer and thus infect it. I had last fall a case from such a source, where the physician who treated the case diagnosed it as what is ordinarily called typho-malarial fever. There were three cases developed in one house below that on the side of a hill, where the plumbing was known to be very bad and was afterwards taken out and replaced. In one or two houses between where these occurred and where the first occurred, where the plumbing had recently been entirely renovated, no cases occurred, but cases did occur at about the same time in the houses below. I think that the matter of disinfecting the discharges is so important that it ought to be brought to the attention of physicians, because I do not think they really appreciate it.

Dr. RAYMOND.—It seems to me that an amendment to these resolutions would be out of place.

The literature of typhoid fever states that it is almost always traceable to drinking water. When we had in Brooklyn a large number of pumps, it was believed, and in fact it was one of the arguments used, that the impure water from these pumps produced typhoid fever. There were some three hundred pumps, and they are now all closed, and to-

day there is but one pump in Brooklyn, and when we had the outbreak in 1885 there was not a drop of water used but the Ridgewood water. The investigations during that outbreak showed that the Ridgewood water had nothing whatever to do with it; you can hardly imagine an infected water drunk by 750,000 people without infecting a much larger number of persons than were sick of typhoid in Brooklyn. The question of ice, and every other question which would throw any light upon the subject, was investigated, and we ultimately came to the conclusion that the whole trouble lay in a lack of disinfection of discharges, infected sewers, and infected drainage pipes inside the houses. It seems to me we could do no better thing than to request the Health Department of this city to investigate typhoid fever. I think we could do more here in Brooklyn than anywhere else. There is no city of any size in the country that has not many conditions present to complicate the inquiry. They have impure water, pumps, wells, etc.; but here we have simply the two elements, the sewers and the house-plumbing, and I would like to see the Committee on Hygiene take the subject up and report on it.

Dr. PALMER.—If the discharges of typhoid fever patients are so poisonous, and the disease is so prevalent from their infecting the sewers, it has been a point I never could clear up, why the tenement house districts were not more affected. Out of the hundreds of cases investigated I recall but one case in a tenement house. It seems, if the sewers were infected at that point—that is, about the top of the hill, which would embrace the district between Degraw Street and 1st and 2d Place, and Smith Street and Henry Street—they become infected by the early cases, and that the poison must have become somewhat diluted before it reached the outlets of those sewers; it passed through a large tenement house district, but strange to say there were no typhoid fever cases there. It has always seemed to me that the original cases came here and that the infection of the sewer came from those cases. I do not believe they were all indigenous here by a large majority. If they were due so much to the infection of the sewers, certainly the tenement house inhabitants must have felt it more than they did.

Dr. BARTLEY.—In the tenement house district that was investigated, the fall of the sewers was considerable, while on a level there is much more danger of infection because of the stagnant condition of the sewage, and it has been shown that micro-organisms do not get from the sewage to the air unless fermentation causes the bubbles to rise to the surface and snap and throw the micro-organisms into the air.

The question on the adoption of the resolutions was then put, and they were unanimously adopted as read.

The President read the following names, constituting a committee to solicit funds for the enlarging of the library :

Drs. Francis H. Stuart, Henry N. Read, Frank E. West, Glentworth R. Butler, J. M. Van Cott, Jr., W. M. Hutchinson, David Myerle, G. A. Evans, Wm. M. Thallon, H. C. Rogers, E. J. Chapin Minard, G. R. Westbrook, George E. Law, Edgar A. Day, Chas. N. Cox, J. W. Fleming.

Dr. Van Cott moved that the Society fix the hour of meeting at 8.30 o'clock instead of 8 o'clock, as at present.

This motion was not seconded.

On motion, the meeting adjourned.

W. M. HUTCHINSON,
Secretary.

KINGS COUNTY PHARMACEUTICAL SOCIETY.

At the meeting of this Society, held Tuesday, February 14, 1888, officers were elected for the year 1888 :

Luther F. Stevens, President ; Wm. M. Davis, 1st Vice-President ; and R. R. Whiting, 2d Vice-President ; F. N. Bliss, Secretary and Treasurer ; Chas. W. Brunner, Assistant Secretary ; Chas. R. Paddock, Chairman of Board of Censors ; John Gallagher and Dr. J. P. Heyen, Censors ; Thos. M. Lahey, Chairman of Board of Trustees ; L. E. Nicot, D. L. Cameron, L. T. Perkins and Thos. D. McElhenie, Election Trustees. The new President will announce the committees at the March meeting.

The retiring President, Mr. Paddock, delivered his address, which covered the doings of the Society for the year. Chairman Lahey, of Board of Trustees, reviewed the proceedings of that body for the year. The Treasurer's account showed a balance slightly in excess of last year, viz., \$1,572.84. Sixteen new members were added to the Society rolls. Three members died during the year.

Dr. Eccles read a paper entitled "A New Alkaloid," which we publish in these columns.

F. N. BLISS,
Secretary.

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BULLETIN OF SOCIETIES.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

WILLIAM WALLACE, M.D., President.

Meets at 356 Bridge st., on third Tuesday evening of each month. Council meeting on Wednesday evening previous. Next meeting March 20th, when papers will be read by Dr. Glentworth R. Butler, on Clinical Notes on Strophanthus, Agaracine and Paraldehyde; and Dr. Chas. N. Cox, on a Case of Multilocular Dermoid Cyst, suppuration, operation, death.

BROOKLYN PATHOLOGICAL SOCIETY.

JOS. H. HUNT, M.D., President.

Meets at 356 Bridge st., on the 2nd and 4th Thursday evenings of each month. Next meeting March 22d. Dr. Emmet D. Page will present a case of single kidney. Dr. L. E. Tieste will present a paper on the Etiology of Carcinoma. At the meeting to be held April 12th Dr. H. D. Bliss will present a case of Typhlitis, caused by an orange seed. Dr. J. W. Ingalls will present a case of Spina Bifida.

BROOKLYN SURGICAL SOCIETY.

FRANK W. ROCKWELL, M.D., President.

Meets at 356 Bridge St., on the 1st and 3rd Thursday evenings of each month. Next meeting, April 5th, when Dr. F. W. Wunderlich will read a paper entitled "The Immediate Operation for Rupture of the Perineum." April 19th, Dr. J. B. Bogart will read a paper, the subject of which is not yet announced.

KINGS COUNTY MEDICAL ASSOCIATION.

E. R. SQUIBB, M.D., President.

Meets at Everett Hall, No. 398 Fulton St., on the 1st Tuesday of each month. Next meeting March 16th. The subject of the Internal and External uses of Eucalyptus (*E. globulis*) will be introduced in a paper by Dr. J. R. Vanderveer.

MEDICAL MICROSCOPICAL SOCIETY OF THE CITY OF BROOKLYN.

WM. H. BATES, M.D., President.

Meets at members' houses on the 1st Wednesday evening of each month. The next meeting will be held April 4th, at the residence of Dr. W. H. Bates, 175 Remsen St. Dr. Richmond Lennox will present a paper on The Development of the Crystalline Lens.

BROOKLYN DENTAL SOCIETY.

J. P. GERAN, President.

Meets the 4th Monday of each month at 356 Bridge St. The next meeting will be held Monday, March 26th. Robert Ormiston, M.D., will read a paper on "A New View of Infection and Contagion from the Standpoint of Bacteriologists."

KINGS COUNTY PHARMACEUTICAL SOCIETY.

LUTHER F. STEVENS, President.

Meets on the 2nd Tuesday afternoon of each month at 356 Bridge St. The next meeting will be held April 10th.

MEDICAL MICROSCOPICAL SOCIETY OF THE CITY OF BROOKLYN.

At the annual meeting of the Society, held March 7th, the following officers were elected: President, Dr. W. H. Bates; Vice-President, Dr. Arnold Stub; Rec. Secretary, Dr. J. M. Van Cott, Jr.; Cor. Secretary, Dr. H. D. Bliss; Treasurer, Dr. Albert Brinkman.

KINGS COUNTY BOARD OF PHARMACY.

WM. P. DEFORD, President.

Meets on fourth Thursday afternoon of each month at 356 Bridge St. The next meeting will be held March 23rd, when candidates for registration as pharmacist and assistant pharmacist will be examined.

The Lecture Course of the Kings County Pharmaceutical Society is held at Grenada Hall, 120 Myrtle Ave., on Thursday afternoons at 2:30 o'clock.

The lecture March 22nd, will be by L. T. Perkins, Secretary of the Board of Pharmacy, on Manufacturing in the Large and Small Way; March 29th, H. Nichols, M.D., on Physiology for Drug Clerks; April 15th, Closing Lecture of the Course, by L. E. Nicot, of the Board of Pharmacy.

*PROGRESS IN MEDICINE.**GYNÆCOLOGY.*

BY A. H. BUCKMASTER, M.D.,

Gynæcologist to the Hospital for Mental and Nervous Diseases; Assistant Surgeon to St. Peter's Hospital, Brooklyn; Assistant to the Chair of Gynæcology, Post Graduate Medical School, N.Y.

THE DIAGNOSIS AND SEPARATION OF PERITONEAL ADHESIONS ABOUT THE
DISPLACED UTERUS AND OVARIES.

Schultz (*Zeitschrift f. Geb. v. Gyn. Bd. xvi., Heft 1.*) urges the more extended use of his method of diagnosing and forcibly stretching adhesions by combined manipulation by the rectum and abdominal wall. The adhesions can be usually felt by the finger introduced into the rectum or vagina, but where this simple expedient is unsuccessful, dilatation of the uterus is recommended until the finger can reach its fundus, and then manipulation will more readily reveal the conditions of the adhesions. Anæsthesia is always used where a satisfactory diagnosis cannot be reached without its aid. The method is as follows: The bladder and rectum having been emptied, the patient is placed in the dorsal position, with the thighs sharply flexed and abducted. With two fingers in the rectum, the operator pushes up the uterine fundus, which is grasped with the other hand through the abdominal wall. By this manœuvre slighter adhesions separate, but if they are too tough to do this, then they are peeled off of the uterus by the tips of the finger of the hand in the abdominal wall. A pessary is generally used to retain the uterus in position. In separating the adhesions which bind down the ovary, care should be taken not to push on the organ itself, but to bore into the adhesions and insinuate the tips of the fingers behind it.

[The above method is a useful one in careful and skillful hands, but should it come into general use it would undoubtedly be tried in many cases too heroically, and although Schultz claims to have had no bad results, we fear his followers will not be as fortunate.]

THE INFLUENCE OF CERVICAL LACERATIONS ON THE ORIGIN OF UTERINE
DISEASES.

Noeggerath (*Centralblatt f. Gyn. Bd. 31, Hft. 3.*) opposes the view that cervical lacerations are the cause of a large number of uterine diseases. He studied fifty cases of uterine disease with cervical laceration, and compared them with fifty cases without laceration. The deduction drawn is that the origin of displacements is not favored by

the cervical tear. He found that with the cases suffering from laceration more became pregnant; less had erosions; more normal cervical tissue, and a less number of cases suffered from chronic metritis and endometritis fungosa.

[This report is, I will venture to say, at entire variance with the views of most practical gynæcologists, and if a deduction could be drawn for Noeggerath's cases as he states them, we might expect to see the market flooded with instruments designed to lacerate the cervix and thus render the patient less liable to erosions, chronic endometritis, etc. We believe that Noeggerath is further from the truth than the most enthusiastic advocates of trachelorrhaphy.]

FIFTY CASES OF OVARIOTOMY AND REMOVAL OF THE UTERINE APPENDAGES.

J. Halliday Crome (Edinburgh Med. Jr., Jan., 1887,) under the above title reports but one death. Six times the ovaries were removed for uterine hæmorrhage; four times where the hæmorrhage was due to a fibroid tumor, and twice where the uterus was soft and flabby and the uterus enlarged. The results were quite satisfactory, but he states in regard to the fibroids that the operations were done before he was acquainted with Apostolis' method, which he has since used with extremely gratifying results.

In two cases the ovaries were removed for dysmenorrhœa pure and simple, and although the menstruation has returned at irregular intervals, the cure of the dysmenorrhœa is perfect.

In thirteen cases the appendages were removed for constant pelvic pain, and in all of them the results of the operations were satisfactory, though many of the cases are of recent date. Dr. Crome is surprised "that men should quibble and carp at these operations, when they can suggest no better means of relieving the patient's suffering. That the operations are done when they might be avoided, may, for anything I know, be perfectly true. There are plenty of arms and legs sacrificed every year by careless surgeons that, in the hands of a skillful, conservative surgeon, might be preserved."

He truly adds, that in case of symptoms that cannot be relieved by other means, and where the ovaries are functionally useless, the operation is not only safe and justifiable, but strongly to be recommended.

PALPATION OF THE FEMALE URETERS.

H. A. Kelly (Trans. Obstet. Soc. of Phila., Am. Jr. Obstet., Dec., 1887,) suggests a method by which he claims that the ureters can be more readily made out. They are picked up and handled bimanually, through the anterior vaginal wall, and are apparent as round cords. While he says that some experience is needed to do this effectively,

he states that anyone may be taught to do it. He claims that the ureters can be outlined with facility and that cauterization is a feasible procedure.

A means of ascertaining the condition of the urine before entering the bladder is a desideratum, but it is usually thought to be impracticable to do this except in case of a vesico-vaginal fistula.

Dr. N. Bozeman recently reported a case of this kind, where he was enabled to drain a kidney by catheterizing the ureter, and in so doing probably saved the patient's life. This procedure is not without danger. The writer knows of one case where the attempt to catheterize the ureter, was followed by serious inflammatory reaction.

THE TREATMENT OF ADVANCED EPITHELIOMA OF THE UTERUS BY TEREbene.

Betrin (Am. Jn'l Obstet., Feb., 1888, abstr. from *Nouv. Arch. d'Obstet. et de Gyn.*, Oct., 1887,) speaks of terebene as a valuable disinfectant and deodorizer. It is applied at the Geneva clinic as follows: After a vaginal injection and the cervix and vagina have been carefully dried, tampons saturated with equal parts of terebene and olive oil are applied to the ulcerated surfaces, and if the pledgets be not too large, they cause no discomfort to the patient. He states that under this treatment the discharge diminishes in amount and fetor, the cancerous nodules appear to soften down, and the progress of the disease seems to be actually arrested.

[This class of cases is one where the medical attendant is glad to try anything, even though it promises miracles.]

THE USE OF THE VAGINAL TAMPON IN THE TREATMENT OF CERTAIN EFFECTS FOLLOWING PELVIC INFLAMMATION.

T. Addis Emmet (N. Y. Med. Jour., Feb., 1888,) states that until recently he has been much prejudiced against the packing of the vagina for pelvic inflammations, as he has seen a great deal of harm from it in the practice of others, and has not seen cases that were benefited. His failure, too, in some cases to obtain beneficial results from the use of hot water lead him to make a careful study of the pelvic blood vessels in disease. Not knowing the history of the subjects he used in his investigations, he assumed that in selected cases of laceration of the cervix, pelvic inflammation must have existed. In these cases he found that these valveless veins were enormously distended and were capable of holding an incredible amount of blood. In seeking the cause of this condition of these valveless veins, he referred to the fact that they were of necessity extremely tortuous, both to overcome the influence of gravity, and to act as a check on the circulation. It was observed that when traction was made upon the connective tissue about the vein in

the living subject, so that its tortuous course was made a straight one, its diameter would increase in direct proportion as this was done. The assumption is that prolapse brings a distension of the veins in this way, while the arteries are but little affected. To go back a little further, injuries to the proper supports of the pelvic veins, such as laceration of the pelvic floor support, would bring about this venous engorgement, and downward displacement add still further to the trouble by straightening the vein and allowing vigorous circulation through the arteries.

In the acute inflammatory manifestation the author uses hot water, as it will cause contraction of all the involuntary tissue within reach of its influence, and thus modifies the circulation. The use of a tampon in this stage is deprecated, as it cannot make enough pressure to lessen the circulation of blood through the arteries, and, if it compresses the veins, only adds to the mischief. When the inflammatory conditions have subsided, the tampon, by lifting the uterus and compressing the dilated venous trunks, allows the circulation to become equalized, and an adhesive inflammation between the walls of the vein would cause its obliteration.

When there has been a formation of local adhesions, these are separated by the steady pressure of the tampon. Dr. Emmet holds that packing the vagina in the knee-chest position is wrong, because the uterus is in this position lifted above its normal plane, and the veins straightened out much in the same way as they are in prolapse of the organ.

The material preferred for tampons by Dr. Emmet is the ordinary roll-cotton smeared with vaseline and made into pledgets. He removes this by a piece of whalebone with a rough screw cut in its end. The importance of having the pledgets ready and the cervix supported by the finger while the last is removed and before the new one is applied, is pointed out. A rubber ring three quarters of an inch in diameter is used during the menstrual period, when it would be impracticable to use the tampon.

THE DIAGNOSTIC VALUE OF THE GONOCOCCUS IN GONORRHOEA IN WOMEN.

Conrad (Correspondent British Med. Jour., Oct. 15th, 1887,) in endeavoring to solve the question of whether a gonorrhœal affection of the female genitals could be differentiated from a non-gonorrhœal inflammation, studied sixty cases with a more or less clear history of gonorrhœal origin. He obtained the aid of several experienced bacteriologists, to each of whom he submitted a specimen from each case, and who made independent investigations. Of the sixty supposed cases, only five recent and two chronic cases showed the characteristic groups of Neisser's microbe.

The following conclusions were reached: (1) Detection of the gonococcus succeeds more easily and more frequently in men than in women, because the latter are less frequently seen in the early stage of a gonorrhœa; they generally pass water before the examination; they frequently will only come for local treatment after local injections have been used. (2) While, in recent cases of female gonorrhœa, Niesser's gonococcus may almost always be detected, it cannot possibly be found in many chronic cases. (3) Hence both acute and chronic gonorrhœal affections may be present in women in spite of our inability to demonstrate the pathogenic microbe in a given case.

Dr. Emmert, one of the gentlemen working with Dr. Conrad, stated that artificial inoculation of the microbe found in the urethra into the vagina almost invariably produced gonorrhœal vaginitis, while the inoculation of the gonorrhœal vaginal discharge into the vagina of a healthy woman had no bad effect. This is explained by the fact that in the vagina, which is a true natural incubator, other fungi prevent its growth.

[The above interesting article shows the value of recognition of Skene's glands and their proper treatment to thoroughly eradicate the specific virus.]

REVIEWS.

A PRACTICAL TREATISE ON DISEASES OF THE SKIN. By John V. Shoemaker, A.M., M.D., Professor of Skin and Venereal Diseases in the Medico-Chirurgical College and Hospital, Philadelphia, etc., etc. D. Appleton & Co., New York, 1888. First edition.

Probably if nine out of ten medical men were asked in what branch of the medical sciences America had most distinguished itself during the last one or two decades, they would reply Gynecology, and the answer would undoubtedly be correct; but it is not saying too much, we think, if we put Dermatological advance as relatively a close second.

We believe the best text books now extant on Diseases of the Skin, certainly for practitioners and students of medicine at least, are those by American authors, avoiding, as they do, the transcendentalism of the French writers, the dogmatism of the German, and the often cumbersome and illy classified, though rich clinical, records of the English.

The treatise now before us has blemishes, mostly of carelessness in language, proof-reading and indexing, and some redundancy of illustration that might well be omitted or bettered in succeeding editions, but is on the whole a creditable exponent of original and honest

thought and compilation on a sound Dermatological basis, and will take its place with the several other excellent books we have alluded to in the foregoing generalization.

The volume is a handsome one, of about 550 pages, with good letter-press. There should have been larger type used for the captions of the special subjects, in our opinion, and also more space allowed between each; a somewhat crowded appearance is given to the articles as they stand.

As is usual now, Hebra's classification, with but slight modification, is adhered to by the author, almost all writers except the French having adopted it as being most useful and convenient.

The chapters on Anatomy, Physiology, Symptomatology, Diagnosis, Pathology, Etiology, Treatment, etc., etc., are fairly full, and as good as full.

In relation generally to Special Subjects as they are handled, probably no worker on the subject but has in some individual cases his own opinion which may be slightly different from the author's, but we are free to say, that we in the vastly greater part of the work concur with the opinions advanced, and believe them well set forth, and as such that they represent American Dermatology well. The author has not been slavish in making merely an excellent compilation (as all works on the subject must necessarily be in part), but furnishes much original thought.

The Doctor naturally has a good word for the Oleates, for which he did so much as a prophet, and not as we believe as originator or discoverer.

The illustrations, as far as woodcuts are concerned, are original and good, but might well be more numerous and somewhat better; we miss in this volume most of the old classic microscopic engravings from Auspitz, Neumann, Rindfleisch, etc.; they are so usually found in this order of treatise that their very omission has the charm of originality, and gives out a sort of new departure from the old order of things. The colored plates we would recommend the author to omit in his next edition. They are too few in number to begin to emulate the several excellent atlases (photographic and others) we now have, and the others now appearing, and promised, and their execution is atrocious.

To summarize, the work is an excellent one, and we can safely recommend it to the practitioner and student.

S. S.

CORRESPONDENCE.

LONDON AS A MEDICAL CENTRE FOR AMERICAN STUDENTS.

To the Editorial Committee of THE BROOKLYN MEDICAL JOURNAL :

It is the practice of English medical students, after the completion of their studies in London, to spend some time in Berlin, Vienna, or other Continental cities. For many years, Americans, following this lead, forgetting for the moment that their own schools bear a closer relation to those of London than any other European city, have turned their steps to the German or Austrian universities, and pursued their studies there. Therefore the Continental cities have obtained a certain reputation, handed down from one set of students to another, which, combined with a profound ignorance of English educational methods, has more or less overshadowed the great advantages which London offers as a medical centre. But the tide is turning somewhat in favor of London, for at the present time there are many students from the United States studying in this city.

It would indeed seem strange if the capital of the British Empire, with its five million of inhabitants, with its eleven medical schools, and with its long list of splendidly equipped hospitals, under the management of a most brilliant and distinguished body of medical men, could not furnish to the young American every opportunity for practical work. Such, in truth, it offers in every branch, except perhaps, obstetrics. The student, to profit by London medical study, must pursue a systematic course of work. Practical and not didactic work should be his aim. The student who has had three or more years of study in his own land, and has already received his degree, will find that mere listening to lectures, from even the most prominent men, is for him somewhat monotonous; for theories and causes, with symptoms and signs, have been drummed into him to such an extent that he is filled to overflowing, and finds that he is listening to an oft-told tale. Nor will he receive much benefit from witnessing operations. The actual handling of cases is desirable. This can be obtained. Should his inclination point to "chest" or "children" or nervous diseases, he will find abundance of work in general or special hospitals, either in the wards or among the out-patients. Eleven of the general hospitals have schools attached to them, and, while the most profit for the graduate is not to be obtained from them, yet it is well to matriculate at one or two of the schools.

With such a long list, beginning with that giant among medical

colleges, St. Bartholomew's, with its five hundred students, and ending with one of the smaller and younger schools, the choice for the moment is somewhat embarrassing. St. Bartholomew's will give the best course in out-patient work. London hospitals will enable the student of surgery to secure a dressership. University, where Sir Wm. Jenner taught, where his influence as a teacher remains, and where his methods are still carried out, will give the best ward-teaching in London, under Ringer, Roberts, and Gowers. Charing Cross has this year instituted a post-graduate course. But the American student, in addition to his studies at the medical schools, will find the most interesting and instructive work at the special hospitals. These have no schools attached to them, but qualified practitioners can, by the payment of a certain sum, secure the privilege of "hospital practice."

The number of the students attending these hospitals is small; the number of patients is large. Thus a field in practical work is presented, the value of which even the most enthusiastic student could scarcely overestimate. There are special hospitals for diseases of the eye and ear, throat, chest; for diseases of children; nerves, skin, and venereal diseases; cancer, small-pox, and fever. This "hospital practice" consists in seeing cases in the wards with the visiting; listening to his demonstrations; watching the effect of treatment; attending post-mortem examinations, and in working among the out-patients with the assistant physicians, who, with few exceptions, are most excellent teachers.

This out-patient work is by far the most valuable that London offers. Here disease of every description, from its earliest stages in acute forms to old chronic maladies, is seen. By regular attendance one can become a sort of named assistant, and it is not an exaggeration to say that the student so attending sees quite as much of the patients as the physicians themselves. It is here that the most profitable study is made in the diagnosis of disease. The nature of the work can best be understood by supposing that some special branch is to be studied, say "chest." The "Brompton Hospital for Diseases of the Chest" is by far the best institution in London treating such complaints. A ticket issued to a medical man gives the privilege of "hospital practice" described above. The out-patient department offers the best field for personal examination. This department is under the charge of six physicians, each attending twice a week. Two physicians are in attendance each day, from one o'clock to four or five, or possibly later, depending upon the number of patients. From one to two hundred patients are seen by each physician, of which number fifteen to twenty-five may be new cases. Every opportunity is given for personal examination and "case taking." The work is as follows: the old patients

are seen in numbers of fifteen or twenty, and, while the physician is prescribing for these, the histories of new cases are taken. The patients are sent into an adjoining room to prepare the chest for examination, and then the students attending, of which there are usually two or three (a fair number of Americans have tickets at Brompton), make their examinations. There is abundance of time for careful examination and for the examining of as many cases^s as one desires. As the examiner is always questioned, it is well to do one's work thoroughly. When the old cases are dismissed, the new ones are sent in to the physician, who reads the history, asks who examined the case, and what the diagnosis is. This is given him, and he then examines, agreeing with or disproving the given diagnosis, and suggesting another examination, or perhaps calling attention to some point overlooked. Cases of unusual interest are commented on at length. Then other cases are called in, alternating with the men and the women, until the day's work is completed. As "diseases of the chest are the diseases par excellence of Great Britain," and as Brompton presents every variety of these diseases, and as the number of men attending is limited, the American will find here, pursuing day after day, week after week, a systematic course of work—personal examination—opportunities for the study of physical diagnosis which no other institution in Europe affords. Theoretical work alone can never make physical diagnosis plain; but theoretical plus practical work, such as one finds at Brompton, makes the study of the chest a delight and pleasure. It is of special value in the diagnosis of early lung disease, where the lesion is limited, while in addition to diseases of the lungs and pleura there are many cardiac cases of every variety, from the heart of chlorosis to that of advanced organic disease.

The care and maintenance of the London hospitals for sick children may be considered as one of its most deserving charities. As these institutions are well provided for, there is every facility presented, in an enormous number of cases, for the study of the diseases of children. The situation of these hospitals has nothing to do with the number of patients. The mothers sing the praises far and near of their favorite institutions; so that children are brought from every part of London and its suburbs. Of these hospitals, the best for clinical study is that in Great Ormond Street. When the mother brings the child, a letter is given her, available for two months' attendance, which can be extended indefinitely by the physician. In the wards, as far as possible, only acute cases are received. Among the out-patients every form of disease, acute and chronic, is presented. As the climate of London is very hard for young children, the daily attendance at Great Ormond Street is enormous. One may either examine the cases in the waiting-room, or may sit at the physician's side and examine with him. In a

single morning will be seen children suffering from pulmonary diseases, from a simple bronchial catarrh to a more seriously acute case of broncho-pneumonia; cardiac cases, congenital or following rheumatic fever, either alone or in conjunction with chorea; chorea, from simple facial twitching to complete inco-ordination; the long list of digestive disorders; the infantile paralyses and nervous affections; meningitis; congenital syphilis; and, what to the American is at first most striking, the great number of cases of rickets. The surgical cases include skin affections, deformities, fractures, joint disease, and the minor surgical complaints. Excellent ward teaching is given at Great Ormond Street. Great stress is laid upon the history of the child previous to admission. Even if the house physician has already diagnosed and prescribed for the case, the visiting always has the history read, and then makes a careful examination, giving a short talk on the case, pointing out special symptoms and teaching the method of making diagnoses.

The description of "hospital practice" at Brompton and Great Ormond Street is, of course, applicable to other special hospitals, and in addition to attendance at the societies, where visitors are always welcomed, with the work done at medical schools, is the nature of the medical study which London offers to the recent graduates in medicine.

So much has been written lately in some of the American medical journals as to the ideas entertained by the Germans of the profession in the United States, that perhaps a few words here would not be out of place as to the reception of American students by medical men in London. There can be no doubt that the English profession have the highest respect for their American confreres; and, while all that is new has not been adopted by them, every due acknowledgment is made for their theories and treatment. In their lectures and clinical talks reference is constantly made to American methods in things old and new, as illustrated by Dr. Ringer telling his students at the bedside of a patient with peritonitis that the treatment used was that instituted years ago by Dr. Alonzo Clark, of New York, or by Mr. Butlin lecturing at St. Bartholomew's on "Intubation of the Larynx," and speaking in words of the highest praise of its introducer. The physicians and surgeons whose methods the student becomes most familiar with are regarded by him as his teachers, and to their instruction he traces his advancement from day to day, knowing well that their unfailing kindness and courtesy, to which there seems no limit, places him under a debt of gratitude, hard indeed to repay; and realizing at the same time that their kindly interest in him as a student is but an indication of the close relation between the English and American schools of medicine, which, despite some differences, are practically one and the same.

HENRY CONKLING, M.D.

LONDON, ENG., Feb. 11th, 1888.

CERTAIN FOODS IN RELATION TO TREATMENT.

To the Editorial Committee of the BROOKLYN MEDICAL JOURNAL :

It is often the case that generalizations are made from an insufficient number of observations or arguments, and deductions are based on purely theoretical grounds, not admitting of demonstration or confirmation by facts. This is bad enough on mere speculative subjects ; but when from such generalizations and arguments, rules of practice are deducted, especially in such a science as medicine, one cannot be too careful in accepting them and giving up practice sanctioned by long clinical experience.

In a paper recently published by Dr. McCorkle in the first number of the BROOKLYN MEDICAL JOURNAL, the subject of certain diets in certain diseases is discussed and the following points, among others, made out : that rheumatism is an acid disease ; that milk is an improper diet for rheumatic patients, as it is transformed in the stomach into lactic acid, by the absorption of which the disease is made worse ; as it has been shown that the administration of lactic acid in diabetes induces rheumatism, and the injection of lactic acid in living animals causes symptoms similar to rheumatism. Then again we are told by the author that endocarditis in children is often caused by this same cause, an artificial, as it were, rheumatic diathesis engendered by the absorption of lactic acid formed by the decomposition of milk in the stomach.

I will confine my remarks to these three points as they are of great practical interest and far reaching importance, if capable of proof.

Now, is there any proof that rheumatism is an acid disease, in the sense that during its course there is an increased production of acid anywhere in the system, or that the presence of any abnormal acid in the blood, urine or perspiration has been demonstrated ? In the American Cyclopædia of Medicine, page 24, volume II., Dr. Howard says : "It must be admitted that, as yet, no sufficient proof is forthcoming that any considerable excess of lactic acid exists in the blood or solids of the body, or in the excretions in rheumatism." "The abnormal development of an acid in the blood during life (in rheumatism) has often been assumed but never found to occur." Ziemssen's Cyclopædia, volume XVI., page 37. Then again "no free lactic acid has been found in the perspiration, and there is good cause to think that the perspiration is only rendered acid by chemical decomposition of the epidermis," page 31, volume II.

Bermer claims that if the surface be often washed the perspiration is neutral at time of secretion. As to the urine, it is acid on account

of its concentrated condition ; this being caused by the profuse perspiration, but not because any more acid is formed. Ziemssen says, volume XVI, page 42 : "That the presence of a deposit of urates in the urine does not imply any increase in the amount of uric acid eliminated." And again : "We do not know if the precipitation of uric acid is only due to the concentration of the urine, or the presence of an abnormal acid. The older physicians were disposed to hold the latter view *without sufficient proof*," volume XVI., page 41. So that at present we have no proof that rheumatism is an acid disease, or that lactic acid is the pathological cause of it.

To the experiments of Foster with lactic acid in the treatment of diabetic patients we have opposed the experience of Senator and Heitzmann, that lactic acid is found in the urine of rickets, and that its presence in the blood of such patients gives cause to the osteoplastic disturbances of that disease, entirely different from rheumatism.

Now as to the second point, that milk is a dangerous diet in rheumatism in consequence of lactic acid fermentation in the stomach, and the absorption of the acid. In Foster's Physiology, page 253, the action of gastric juice on milk is regarded as due to a special ferment, as such action does not depend on the acidity of the gastric juice, but is destroyed by boiling. In regard to this ferment, the following paragraph occurs, "This ferment is not identical with pepsin, and Hammarsten has succeeded in separating the two. According to him the presence of milk sugar is not necessary to the change, and the ferment itself does not give rise to *lactic acid fermentation*. He therefore does not regard the curdling as the mere precipitation of casein by the development of *lactic acid*." So that even if lactic acid were the cause of rheumatism, the natural digestion of milk does not give rise to it. And as we know that one of the final results of the digestion of sugar in the intestines is lactic acid, it seems to me as a logical sequence of the author's idea, that starch and sugar should also be interdicted along with milk.

As to the origin of endocarditis in children from the use of milk, the idea is a mere assumption, without proof or foundation, and only shows how far one can be carried by the fascination of a pet theory.

In conclusion I will say that every one, and more especially those to whom the profession looks for guidance and information, should be very careful how he advances new ideas and recommends new departures in practice, unless fully backed by abundant physiological demonstration, and careful clinical observation.

M. FIGUEIRA, M. D.

14 Stuyvesant Ave., Brooklyn.

MISCELLANEOUS,

BROOKLYN VITAL STATISTICS FOR JANUARY, 1888.

Reported by J. S. YOUNG, M.D., Dep. Commissioner of Health.

Population, estimated on January 1st, 1888.....	774,870
Inhabited houses, about.....	85,000

In the month of January, 1888, there were 1,588 deaths, the rate of mortality being 24.58 in every 1,000 of the population.

The number of births reported was697

The number of marriages reported was.....262

The number of still-births reported was.....142

The mortality by classes and by certain of the more important diseases was as follows :

Causes :

I. Zymotic.....	337
II. Constitutional.....	279
III. Local.....	815
IV. Developmental.....	111
V. Violence.....	46
Measles.....	3
Croup.....	52
Diphtheria ...	144
Scarlet Fever.....	58
Typhoid Fever.....	6
Whooping Cough.....	4
Malarial Causes.....	23
Diarrhœal Diseases (all ages).....	15
“ “ (under 5).....	9
Phthisis.....	187
Bronchitis.....	93
Pneumonia.....	226
All Respiratory Diseases.....	353
Bright's Disease.....	35
Puerperal Diseases.....	21
Old Age.....	26
Suicide.....	8

Reported cases of Infectious Diseases :

Diphtheria.....	289
Scarlet Fever.....	348
Measles.....	26
Typhoid Fever.....	18

During the month 89 cases of small-pox were reported, of which number 71 were confirmed, the remainder being entered at the Department of Health as measles and chicken-pox.

Sixty cases of small-pox were sent to the Hospital. Two deaths from small-pox occurred in the city, and 11 in the hospital.

Deaths by *Sex, Color and Social Condition*, were as follows : Male, 808 ; female, 780 ; white, 1,563 ; colored, 25 ; native, 1,097 ; foreign, 491 ; married, 443 ; single, 930 ; widows and widowers and not stated and unknown, 215.

Still-births (excluded from the list of deaths) : Males, 84 ; females, 58. Total 142.

Deaths in Public Institutions..... 110

Deaths in Tenement houses.... 380

Inquest Cases.. 144

Two homicides (one by kick and blow and one by pistol) ; 2 suicides by shooting ; 2 suicides by poison ; 3 suicides by hanging ; 1 suicide by razor.

Age Periods : Deaths under 1 year, 276 ; under 5 years, 566 ; 5 to 20 years, 201 ; 20 to 40 years, 300 ; 40 to 60 years, 261 ; 60 and upwards, 260. In the above are included two deaths over 100 years of age, and seven over 90 years of age.

The following was the annual death rate for certain American and foreign cities for the month of January, 1888 : Brooklyn, 24.58 ; New York, 26.54 ; Boston, 30.7 ; Philadelphia, 22.32 ; Washington, 22.26 ; St. Louis, 22.26 ; London, 23.5 ; Paris, 26.54 ; Dublin, 34.1 ; Glasgow, 24.7.

“ABOUT THE SIZE OF A —”

In a letter to the *Philadelphia Medical Times*, an English physician calls attention to the unscientific terms used by physicians when describing the size of tumors and other pathological objects. He says : “Such time-honored comparisons as a ‘fœtal head.’ (I thought they varied a great deal) or ‘a millet-seed’ (I never saw a millet-seed, but I believe it to be about as big as a miliary tubercle), we cannot hope to get rid of before the millennium. But when it is a mere matter of length and breadth, could we not state the fact in inches or millimetres? I am moved to write to you by having been just now brought up by the statement that something or other was ‘about the size of a dollar.’ I was interested in this case up to that point, but I got lost then ; the only dollar I ever saw was a tiny gold coin, about the size of a threepenny bit ; I get pardon, about fifteen millimetres in

diameter. From the context, I think that the article mentioned must have been bigger than that, but I am not sure, and the statement bewilders me and destroys my interest in the case. Another time I came across the statement that a tumor was 'about the size of a dough-nut.' Now as to a dough-nut my mind is blank; is it a nut that grows on a tree—a cocoa-nut, or a walnut, or a hazel-nut? or is it the other half?—'dough' suggests it is a kind of cake—a 'bath-bun,' or a 'tea-cake,' or, perchance, a cake 'about the size of a piece of chalk?' as the witness said in the famous trial. It is bad enough, sirs, to have to learn two or three languages in order to keep ahead of the progress of medical science. Why should we, who speak the same language, throw these entirely unnecessary obstacles in each other's way? I hope you will lend your powerful influence to induce our American cousins to give their measurements in terms of some scale which can be mutually understood."

The writer adds in a postscript: "P. S.—Since writing the above, a lady has told me that a 'dough-nut' is a kind of bun about the size of an orange, brown outside, jam inside, very good to eat, and 'they cost three halfpence.' Upon this I wish to ask: 1. Tangerine or Seville orange? 2. Is she right? 3. Granting 1 and 2, is this a satisfactory way of arriving at a pathological fact?"

BATTEY'S, TAIT'S AND HEGAR'S OPERATIONS.

These terms are employed with such different meanings by different authors that we are glad to be able to quote the following statement of Dr. J. F. Baldwin, made by him in a letter to the *Buffalo Medical and Surgical Journal*. "In the article on 'Nomenclature, Personal,' in 'Wood's Reference Handbook of the Medical Sciences,' occur definitions of these several operations. As the writer of that article, I may say that these definitions cost me more correspondence than all the other five hundred put together. The definitions of Battey's and Tait's operations are quoted verbatim from letters received from each operator. *Battey's operation*—'The complete extirpation of both ovaries, while yet in a state of functional activity, for the effectual remedy of cases of disease otherwise incurable.' *Hegar's operation*—The same as Battey's operation. *Hegar-Tait operation*—A misnomer of Tait's operation. *Tait's operation*—'Removal of the uterine appendages for physical disease other than cystoma: As the removal of the ovaries and tubes for uterine myoma; the removal of a tube for pyosalpinx, or other disease; or the removal of both ovaries and tubes for chronic inflammatory disease and adhesions.'"

LONG ISLAND COLLEGE HOSPITAL.

A large number of physicians with a small proportion of the laity, as invited guests, attended the Seventh Annual Dinner of the Long Island College Hospital Alumni Association, which was held at Remsen Hall on Thursday evening, March 8th, Dr. John Harrigan presiding.

The speakers of the evening were: Rev. N. E. Smith, Postmaster Hendrix, Hon. Thos. H. Rodman, F. W. Hinrichs, Dr. J. Leonard Corning, Chas. M. Skinner, Dr. Landon Carter Gray, Dr. Geo. R. Fowler, L. F. Stevens, Prof. A. C. Perkins, Dr. B. Burroughs, Dr. J. H. Raymond, Dr. Robt. F. Newman, and Dr. Chas. E. De La Vergne.

On Friday evening, March 9th, the Twenty-ninth Annual Commencement Exercises of the Long Island College Hospital were held at the Brooklyn Academy of Music. The graduating class numbered thirty-six.

The names of the graduates were read by Dr. J. H. Raymond, Secretary of the Faculty. The Hippocratic oath was administered by the Dean, Dr. A. J. C. Skene, and the diplomas conferred by Dr. Geo. G. Hopkins, Acting President of the Collegiate Department.

As the result of a competitive examination four internes were appointed to the Hospital—Dr. W. J. Hill and Dr. W. H. Snyder for the term beginning April 1st; Dr. W. H. Skene and Dr. F. P. Keyes for the term beginning October 1st.

The Dudley Medal for the best clinical report of a case in the medical wards of the hospital was awarded to Dr. H. A. Tucker, Jr., of the graduating class. The Dudley Memorial Medal for the best clinical report of a case in the surgical wards of the hospital was awarded to Dr. W. J. Hill, also of the graduating class. The Lewis Anatomical Prize of \$50.00 was carried off by R. H. Pomeroy.

The Valedictorian, Dr. Geo. W. White, spoke upon "The Elevation of the Medical Profession." The main speech of the evening was a characteristic and interesting address by the Rev. T. DeWitt Talmage, punctuated here and there with applause and laughter. His subject was, "The Glories and Triumphs of the Medical Profession."

SMALL-POX IN BROOKLYN.

Total number of cases, from Jan. 1st to March 15th, 1888	215
Removed to Hospital.....	190
Died in Hospital.....	27
Died in the city.....	7

BOOKS AND PAMPHLETS RECEIVED.

Diseases of the Heart and Circulation in Infancy and Adolescence. By John M. Keating, M.D., and William A. Edwards, M. D. P. Blakiston, Son & Co. Price, \$1.50.

The Diagnosis and Treatment of Hæmorrhoids. By Chas. B. Kelsey, M.D. Detroit. George S. Davis.

Synopsis of the Second Hundred Cases of Urethral Stricture treated by Electrolysis. By Robert Newman, M.D., of New York. (Reprint from the Journal of the American Medical Association.)

The Three Ethical Codes: The Code of Ethics of the American Medical Association, its Constitution and By-Laws.

The Code of Ethics of the American Institute of Homœopathy.

The Code of Ethics of the National Eclectic Medical Society.

Detroit: The Illustrated Medical Journal Co., 1888. (Price, 50 cents).

The Galvano-Cautery Sound and its Applications, especially in Hypertrophy of the Prostate, with Reports of Cases. By Robert Newman, M.D., of New York. (Reprint from New England Medical Monthly) Bridgeport, 1887.

Les Microbes de la Fievre Jaune, par le Dr. D. Tamayo. La Havane, 1888. Pampl. pp. 30.

Transactions of the Medical Society of the State of Pennsylvania at its 38th annual session, held at Bedford Springs, Pa., July 1st, 1887. Vov. XIX. Lancaster, Pa. 1887.

Transactions of the Medical Society of the State of New York for the year 1887. Syracuse. 1887.

Catalogue of the Flora of New Jersey. By N. L. Britton, Ph.D. New Brunswick, N. J. 1881.

A Case of Congenital Hernia of the Abdominal Viscera and Left Lung.

Presentation of the Hernial Sac, Left Arm and Shoulder—Podalic Version, by A. M. Jacobus. (Reprint from the Medical Record. N. Y., 1887).

Lyssa and the Pasteur Fiasco. By N. E. Brill, A.M., M.D. (Reprint from the Journal of Comparative Medicine and Surgery, 1888.)

Report of the Commissioner of Education, Department of the Interior, for the year 1885-86. Government Printing Office, Washington, D. C., 1887. Contains list of schools of medicine, dentistry and pharmacy in the United States, with comparative tables of the schools, number of instructors and number of students each year from 1876 to 1885 inclusive, together with a summary of State laws regulating the practice of medicine in the United States.

THE BROOKLYN MEDICAL JOURNAL.

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ORIGINAL ARTICLES.

THE USE OF ALCOHOL IN CERTAIN FORMS OF FEVER.

BY PAUL H. KRETZSCHMAR, M.D., OF BROOKLYN, N. Y.

Read before the Medical Society of the State of New York, at Albany, Feb., 1888.

Within the wide range of the entire *Materia Medica* there is not another remedy the use of which has so many opponents, and at the same time there is none which, in the hands of the careful physician, is so powerful an agent for doing good as alcohol and its numerous preparations. The healthy human body does not require alcohol; its moderate use in health has no detrimental influence upon the general system; its habitual abuse is certain to be followed by serious structural changes in many important parts of the organism, and dangerous functional derangement of the entire nervous system. In certain forms of disease it is a remedy, if properly administered, which is not only instrumental in prolonging life, but frequently it is the most important factor in preserving it.

The teachings of prohibition are disseminated all over the land, and without entering into any discussion of its merits or demerits, the question of administering alcoholic stimulants in disease is one which should be positively settled by a representative medical body as this is. Who has not had the experience of patients refusing to take the prescribed amount of whiskey, brandy or wine, on account of conscientious scruples? There are members of this learned and supposed liberal profession who permit their adherence to prohibition principle and

doctrines to blind their otherwise good judgment. Those who have done so heretofore should remember that the healing art, while it pays due consideration to the moral questions, should not allow them to stand in the way of performing the cardinal duty of the true physician, to relieve sufferings, cure disease, and prolong life. No intelligent physician would allow the fact that human life is thereby destroyed to interfere with his performing craniotomy if the mother's life is in actual peril and can be saved in that manner. Would anybody hesitate to induce an abortion if circumstances indicate the strong advisability as a therapeutic measure for doing so? No doubt some prescribe stimulants too freely, and sometimes when they are not indicated; in fact, circumstances may arise when it is not an easy matter to decide whether or not to resort to the use of alcohol. It is the object of this paper to state what febrile conditions make the administration of alcohol a necessity, and to lay down some positive rules regarding its administration.

In papers touching upon this subject it will be generally found that alcohol is classified as standing midway between food and medicine, and I think a great wrong is thereby done to this valuable and powerful remedy. Standing midway between food and medicine, alcohol would be neither, or a little of each, while in reality it possesses the qualifications of either in a marked degree. Considering the therapeutic value of alcohol, its influence upon the circulatory system is pre-eminently important; it increases the power of the heart's action, it diminishes the frequency of its beat, and augments the force of its contractions. The question of the value of alcohol as a food has been investigated by many careful observers, and, while their opinions differ widely, especially as to its mode of action, it seems that Prof. Austin Flint, in his excellent paper on "Fever," read before the Ninth International Medical Congress, September 6th, 1887, expresses the views held by the majority of philologists. He says: "Inanition is also a constant element in a fever long continued. In health, the formation of water in considerable quantity, in the production of heat, occurs in the first part of a period of deprivation of food, and this saves, to a certain extent, destruction of the solid tissues. One of the most marked and constant condition in fever is a disturbance of the heat-producing process, in which the solid tissues are consumed and the production of water is greatly diminished. It is a rational object of treatment to endeavor to restore the normal equilibrium between the consumption of the so-called solids and the formation of water as factors in the production of heat. If it were possible to introduce farinaceous and fatty articles of food in sufficient quantity in fever, it might not be necessary to use alcohol; but the condition of the digestive organs is such that

these articles are slowly and imperfectly prepared for absorption. Alcohol, however, requires no preparation by digestion. It is promptly taken up by the blood and is oxidized even more readily in fever than in health." At another place the same author states: "Alcohol judiciously administered, so that all that is introduced is promptly and completely oxidized, as it contributes material for consumption in the production of excessive heat, exactly in that degree does it retard destruction and degeneration of tissue; and it should be employed to supplement the use of matters that are regarded as nutritive.

If the medical, stimulating effect of alcohol is desired, we may safely say that, just in proportion as the heart muscle fails to perform its duty properly, alcohol is useful. To state that any certain quantity of alcohol be an appropriate dose, as can be done in the large majority of drugs, would be a fallacy, just as is the case with opium. Habit, age, sex, have a certain influence in determining the amount of either alcohol or opium to be given as a dose; but we should rather endeavor to obtain a certain effect without regard to the amount used than adhere to rules laid down in the text-books. In one case the amount of pain to be relieved should be our guidance, and, in the other, the heart's action or its indicator—the radial pulse—should be the criterion for the amount to be given. It should be remembered that the effects of alcohol pass off quickly, and after the heart has once responded to the influence of the stimulant it should not be allowed to relapse to its previous condition. Alcohol should under such circumstances be administered rather frequently and always at regular intervals, even during night-time. No one would ever think of telling his patients to take belladonna, strychnia, digitalis, or any other powerful remedy in doses to suit themselves or in "liberal quantities," and neither should alcohol or its preparations be prescribed in a loose or careless manner; neither the amount to be given nor the time of its administration should be left to the judgment of the patient or his friends. Peremptory orders and directions are as necessary to obtain good results from the drug under consideration as is the case with the others mentioned above. The fact that many practitioners neglect to regard alcohol as a powerful drug is responsible in a high degree for the harm done sometimes by cultivating a taste for alcoholic stimulants.

The dietetic virtue of alcohol is well proven in cases of wasting febrile disease of either acute or chronic nature, and is best illustrated by typhoid fever in one and by pulmonary phthisis in the other case.

The form in which alcohol is to be given deserves consideration. The one rule which must always be followed is to administer it *well diluted*. A difficulty arises when we come to decide which preparation of alcohol to use; pure absolute alcohol, rectified spirits of wine,

brandy, whiskey, rum, arrac, gin, different kinds of white or red wine, champagnes, beer, cider, cordials of various names, and last though not least, kumiss, all contain alcohol in larger or smaller proportions, and it is of importance to select in each case the most suitable one of these preparations. In deciding in favor of one or another of these articles, we must be guided by the desire to obtain such as contains alcohol in its purity; but we must not overlook the fact that they contain other constituents which must by no means be regarded as playing an unimportant part, and which might retard or even interfere with the good effect of alcohol. Rectified spirits diluted with water, flavored and sweetened to suit the patient's taste, answers the demand for a pure article best, and yet it is very little employed. Brandy seems to be the favorite with the profession as well as with the laity, but it seems to be doubtful whether that should be so. The best sort of brandy—generally a very expensive article—is probably as good as any alcohol preparation, but it is with difficulty that we obtain it; most is of a poor quality and contains more or less fusil oil, and it is for that reason that it should be condemned. Nothing will interfere more certain with the beneficial effect of alcohol on the heart than fusil oil. Of the stronger preparations of alcohol, including all those known as strong liquors, whiskey is probably best adapted for medical use in this country, because it is made here, and a pure article can be obtained without paying a very high price for it. Rum and arrac are not much used. If for any special reason the diuretic effect of an alcoholic preparation is desirable, gin might be selected. Most of the European practitioners prefer the use of wines to that of stronger liquors, and they base their choice upon the fact that alcohol is contained there in a diluted form naturally and that the taste is more agreeable to the patient. Sparkling wines—champagnes—act much quicker than still wines, on account of the presence of carbonic acid, and should be selected in all cases where it is desirable to obtain the stimulating effect of alcohol as quick as possible. Cider contains such a small percentage of alcohol that it has little value as a medical preparation. Beer and kumiss are also poor in alcohol, but they are valuable as nutritive agents on account of the other constituents—albuminoids, etc.—they contain.

The diseases in which alcohol should always be given, though not at every stage, are *diphtheria*, *pulmonary phthisis*, *typhoid fever*, and the *asthenic form of pneumonic fever*. All these diseases depend upon the presence of a certain micro-organism within the human body; and as bedside experience teaches us the great value of alcohol in these cases, we might, remembering the power of alcohol as a germicide without the human body, ask the question, if aside from the therapeutical effect mentioned above, alcohol has not also direct *germicidal* properties. Dr.

E. N. Chapman, of Brooklyn, N. Y., claims that alcohol is a direct antidote to the *diphtheritic poison*. He says: "Alcohol is as antagonistic to diphtheria as belladonna to opium or quinia to malaria;" and he continues, "I have thought it opportune to submit to the medical profession certain empirical facts that have been accumulating during the past seventeen years. These show beyond cavil that alcohol has in my hands proved itself, when most physicians have been losing every third or fourth case, not only a valuable medicine, but a trustworthy antidote—one capable of saving ninety-five per cent. in severe epidemics. With me this scourge, thus robbed of its terror, causes no more anxiety than many common ailments." The doctor states that, during a period of four years, he treated one hundred and twenty-five cases with but one death, a result so astounding as almost to stagger belief. The *Journal of Dietetics* of October, 1887, contains the following: "Alcohol, we make bold to say, is the prince of antiseptics and the most perfect and valuable medicine of which we have any knowledge in diphtheria. Diluted with equal parts of water, and given in small and repeated doses, the malignant symptoms of this most fatal malady disappear and convalescence becomes assured. It is interesting to note with what facility the alcohol dissolves the diphtheritic exudation in the throat, lowers the temperature, and calms the pulse, showing its destructive work upon the germs of the disease. This remedy has been used by us in the treatment of diphtheria since 1873, during which time no case of the disease has slipped through our hands, except in one solitary instance, and that case was in articulo mortis before the remedy was given. The remedy is also prophylactic to the disease, as we have found in many instances."

These statements speak for themselves; and, although the writer has not been as fortunate in results, considerable experience has taught him to rely upon alcohol as a most valuable adjunct in the treatment of diphtheria. If alcohol is not given in a case of diphtheria, the attending physician omits to do all he can for the welfare of his patient. In *pulmonary phthisis*, especially if there is any elevation of temperature, alcohol is one of the most valuable remedies at our command, notwithstanding the fact that phthisis is especially prevalent among those who live an intemperate life. Dr. H. Brehmer, who has probably a larger experience in treating pulmonary phthisis than any other man, over 13,500 patients having visited his institution for the cure of consumption at Goebersdorf, in Germany, during the last thirty-three years, says: "I first introduced alcohol as a remedy for pulmonary consumption because it strengthens the heart's action, elevates the blood pressure, and improves the feeble and weak pulse; but as long ago as

* Antagonism of Alcohol and Diphtheria, by E. N. Chapman, Brooklyn, 1878.

1864 and 1865, I found that it also possesses great value in aborting or shortening the chills and reducing the temperature, and that it should be classified as a powerful drug for relieving the fever." He also states: "Brandy and milk properly administered is a sovereign remedy for night sweats.

Dr. P. Dettweiler, of Falkenstein, another phthiso-therapeutist of excellent reputation, says: "After many trials and experiments with a large variety of drugs, I have arrived at the conclusion that alcohol is the most potent factor for the relief of the fever of consumptives, and that, if I had to choose, I would rather dispense with the use of salicyl, quinine, and antipyrin than with that of good wine and pure cognac." One of the best of our own clinical teachers, Prof. Austin Flint, Sen., says: "Basing my opinion on clinical experience, I do not hesitate to express the belief that in a certain proportion of cases alcohol exerts a *curative* influence." All these writers agree that they do not know of any cases where intemperate habits were developed by the proper use of alcoholic stimulants during the treatment of the disease. It seems almost superfluous to add anything to the testimony of these trustworthy and careful observers. The writer has always employed alcohol—generally in the form of strong Hungarian wine, taken principally with meals—in treating pulmonary phthisis, and his experience fully coincides with the statements made above.

The value of alcohol in pulmonary phthisis is depending not only on its therapeutic effects but also on its dietetic qualities, and, as in the case of diphtheria, it would be bad practice not to give our consumptive patients the benefit of this valuable remedy.

In *typhoid fever*, as well as in *pneumonia of the asthenic type*, the good effect of alcohol is more readily observed than in most other diseases, and the most gratifying results are recorded frequently as a direct sequence to the liberal use of alcoholic stimulants. After typhoid fever has run along for some weeks, and great depression of the vital powers, as shown by indistinctness of the first sound of the heart, a feeble pulse, jacitation, is a prominent symptom, alcohol is the remedy above all to be relied upon. If it would not extend this paper beyond the space allowed, a number of very interesting cases could be quoted which tend to convince every intelligent physician of the great benefit derived from the judicious but liberal use of alcohol in treating typhoid fever or conditions resembling it. Only one case, instructive also in regard to the effect of a small dose of antipyrin, shall be mentioned:

L. P., a young lady of 17, was taken with typhoid early in October last. The writer saw her in consultation first, November 28th; at that time the symptoms attracting attention were occasional vomiting, low delirium, temperature $102\frac{3}{4}^{\circ}$, subsultus, pulse 120 and weak, some

tympanitis. Ordered one-half ounce of best brandy in water or milk every hour, two pints of champagne during twenty-four hours, and Rudisch sarco-peptones. The general symptoms remained about the same; vomiting ceased, but the temperature—taken every two hours—showed a higher range during the next few days. December 2d, temperature $104\frac{1}{2}^{\circ}$, breathing 34 per minute with increased adynamic condition. At 6 P. M. ordered 15 grains antipyrin every four hours if temperature above 102° . Brandy increased to one ounce every hour, otherwise no change. At 9.30 P. M. called in haste; temperature $97\frac{1}{2}^{\circ}$, pulse 140 and feeble, respiration 42, first heart sound very indistinct, cold perspiration over forehead, fine moist rales over both lungs. Ordered one and one-half ounces of brandy every hour, champagne a glass every half hour for two hours—and no more antipyrin. Patient took thirty-six ounces of brandy within twenty-four hours for two days, decreasing the amount then to twenty-four ounces and soon to twelve ounces daily. The patient made a good recovery, thanks to the liberal use of alcohol. The writer does not urge the administration of stimulants at the beginning of either typhoid or pneumonic fever, but we should not employ it only as a “*dernier ressort*.” As soon as symptoms indicating heart-failure become apparent, alcohol should be employed and in sufficiently large doses to produce the desired effect. It is very probable that little difference of opinion exists in the medical profession about the value of alcohol in typhoid conditions of the system, the evidence of its usefulness being overwhelming. Any physician who would allow a patient to die from heart-failure in typhoid or pneumonic fever without giving alcohol a fair trial, should be condemned without hesitation.

RESECTION OF JOINTS OF THE UPPER EXTREMITY.

BY L. S. PILCHER, M.D.

Read before the Brooklyn Surgical Society, January 19, 1888.

I shall have to forego the pleasure of presenting an elaborate paper, and take the liberty of merely presenting some cases and of making some remarks of a practical character, upon some points in connection with excision of joints of the upper extremity.

I wish to confine my attention particularly to three of the joints, namely: at the shoulder, between the humerus and the scapula, at the elbow, and at the wrist.

It is now about a year since a little child some twenty months of age, was brought to me the subject of extensive suppurative action

about the shoulder joint, the history of which was that some three months before, after the shoulder joint had been violently wrenched by lifting it up by the arm, it had inflamed, and some time thereafter an abscess had been discovered which had been opened by the physician called to attend at the time, and from that time it had gone on, the parts becoming more swollen, continuing to discharge, with much fever and a general downward progress of the case. Upon freely opening the external abscess that presented itself, it was evident that at the bottom of the abscess cavity, upon the anterior part of the capsular ligament there was a small opening through which the external abscess communicated with the cavity of the capsule, and that the foundation and origin of the trouble was within the capsular ligament. Upon freely incising the capsule it was found that the greater part of the head of the humerus had been destroyed by carious action, and the cavity of the capsule was filled with broken down bony matter and pultaceous material and pus. I considered the case to be one of tubercular disease of the head of the humerus, lighted up by the injury to which the parts had been subjected in the violent wrench that they had been put to, and as the result of it, the breaking down of the bone, the suppuration within the capsule, the rupture of the capsule, the formation of the external abscess, and the whole train of symptoms which had followed.

Now, in a case of that kind there are two methods of procedure which might be attempted, one, the more radical method, would consist in a total ablation of the diseased parts. The other, the removal of only those structures which were the more manifestly and absolutely degenerated ; which were already broken down and disorganized, and leaving all that showed any considerable amount of vitality ; providing for the free escape of all the secretions that might be poured out, and to so sustain the child that an opportunity for the rallying of reparative power might be given, and trusting to time for a limitation of the disease and for repair, to some extent. And just at this point is one of the points in connection with these troubles upon which I desire especially to invite the discussion of the Society. The point is as to how far we should take into consideration the subject of the age of the patients that present themselves to us, in choosing between these two methods that I have spoken of. It has seemed to me that in adults, persons who have passed the age of eighteen or twenty, when the nutritive action in the bony tissue has already passed its maximum, and the tendency to growth has been arrested, that after that age the natural reparative power is not to be depended upon, but when once disease, particularly tubercular disease, has been set up within them, that, as a rule, it tends to steady progress until at least a very large amount of destruction of tissue has been accomplished, and in most instances

until by the formation of communications with the surface of the body and by the setting up of prolonged suppuration and hectic fever, some radical means is demanded for their relief. It has therefore seemed to me that we cannot expect by conservative measures of any kind to get good results in persons who are adults, but that in cases of children, if a fair amount of chance is given, in the early stages by rest, and in the later stages, where destruction has already been accomplished, by giving free vent to the secretions and diminishing the dangers of absorption, we may expect a natural limitation and rallying of reparative power and a cure, with a considerable probability of restoration or preservation of function in the parts that have been attacked. At all events this belief on my part determined me in the course of action which I should take in that particular case. I cleared out all the thoroughly disorganized parts, washed out thoroughly, and provided for free drainage, keeping the part reasonably at rest by a sling and by bandaging, and waited for the results as they should transpire. During the year since, the child has gone on well; it has increased in weight and strength; its general vigor is most excellent. At one time it became necessary to make an opening at the back for the purpose of more free drainage, after which the child improved rapidly. The sinus is still open but the discharge is very scanty, and there is considerable degree of mobility in the shoulder joint.

While I was in Michigan last summer, I had an opportunity of examining a case in which exsection of the upper part of the humerus, involving the humero-scapular joint, had been made as the result of a gun-shot wound received in the war. In this case, of course, the very opposite condition was present. It was an example of a most radical exsection, the upper third of the shaft of the humerus had been removed, so that there was no communication whatever between the upper part of the humeral fragment that remained and the scapula, and the relations between the two were as loose as the two parts of a flail. The operation had been done some twenty-five years before. The parts had healed and contracted a good deal, and there had been a considerable amount of condensation and hypertrophy in the musculo-fibrous tissues which unite the humerus and scapula, so that a very considerable degree of power remained in the arm, and there was a considerable degree of functional activity enjoyed by it. The person could carry a bucket of water by a peculiar shrugging motion, which pulled the humerus back so as to give a point of rest against the shoulder or side, and a good deal of usefulness had been retained in the limb, certainly very much more than could have been enjoyed by any artificial limb that could have been adapted to it. The movements of the fingers and of the elbow were perfect.

The case is a source of encouragement to us in those cases where it is necessary to make a choice between amputation and exsection of a very considerable amount of bony tissue, to use the more conservative method of resection.

This naturally brings me to the next case, which is one involving the elbow joint, and the important relations to the point which I have just raised will appear in a moment.

This young lady, (presenting the patient) who is now some sixteen years of age, when she was eight years of age sustained a bruise on the elbow, by falling in the gutter, and elbow-joint disease of a tubercular character resulted. She was referred to me for advice last fall, at which time I found her the subject of apparently a very extensive disease of the elbow joint, but as yet it had not formed any external communications of any kind, so that there were no fistulous orifices. The extent of the damage, however, was so manifest that it was evident that the question to settle was whether it should be amputated or whether an attempt at resection should be made, knowing that in the resection the removal of all of the diseased parts would be so extensive an operation that there would be every probability of having a weak joint remaining. I took into consideration, in this case, both of the points which I have referred to in connection with these shoulder-joint troubles. Here was a girl who had now reached the age of sixteen; for eight years, during the time of greatest reparative power and nutritive action, she had been the subject of this disease, and every opportunity, during this time, had been enjoyed by her for the elimination of the disease, and notwithstanding that, it had continued to increase. It seemed to me, therefore, that there was no reason to believe that in this particular case it would be safe to rely at all upon the natural reparative power of the tissues, and that whatever was done ought to be of a radical and thorough character. Then, the fact, that in the case of the shoulder-joint, after so considerable a removal of the parts entering into the formation of that joint, as years had advanced the healing of the muscular and fibrous tissue had been such as to restore to so great a degree the functional power of the part, led me to believe that possibly, however great the amount of tissue necessary to be taken away in this case, there might be such an amount of compensation of that nature as to give a fairly serviceable joint; and even if that did not take place, by the use of some supporting apparatus the elbow might be held firm so that the arm as a whole might be used, and that her wrist and hand would be retained to her. So I advised that it should not be amputated, but that an attempt at cure by resection be made.

The operation was performed about the first of November by means of a long incision, which is evident here at the back (demonstrating on

patient's arm) an incision sufficiently long in either direction to thoroughly expose all the diseased tissue. The parts were thoroughly infiltrated with the gelatinous matter which is so characteristic of this condition, and several abscesses were found dissecting themselves among the soft tissues of the part. All this gelatinous material was thoroughly scraped out until only the healthy tissue was left behind ; all pyogenic membrane was carefully dissected out, all that portion of the humerus which was manifestly diseased was first sawed away and then it was found that the disease extended still further up, and the final section which left healthy bone was above the condyles, just about the margin of the depression for the olecranon process, so that the entire expansion of the lower end of the humerus was removed. The end of the ulna and radius were also diseased and were taken off at the same level, just at the point where the biceps tendon is inserted into the bicipital tuberosity of the radius. The coronoid process of the ulna, the sigmoid cavity of the olecranon and the head and neck of the radius, being all removed. The ulnar nerve was thoroughly embedded in the gelatinous tubercular mass ; it was exposed for an inch and a half of its length and the diseased tissue was carefully dissected away from it, so that it remained exposed in the wound, as a bare white cord.

The ordinary methods of disinfection by irrigation were used, and sutures were applied after hæmostasis had been secured, and two drainage tubes were put in at the lowest part of the arm, and the wound was dressed with saw-dust pads. At the end of three days, the drainage tubes were removed : union by first intention had apparently taken place over the whole of the wounded surfaces, the drainage sinus immediately closed, and there has been no trouble from that time to this.

Now two months and a half have passed since the removal of this extensive diseased mass. The arm is apparently healthy, but, as was to be expected, there is considerable distance between the bones of the forearm and the bones of the arm. That distance is not so great now as it was immediately after the operation. By means of these two little metallic splints, connected by this rod (exhibits apparatus), the so-called Levis' splint, the arm is very fairly supported, the whole being kept on by a laced bandage which she uses for the purpose. We are now waiting to see how much contraction and hypertrophy will accomplish in restoring the usefulness of the limb. The parts are like the two parts of a flail.

That reminds me that in the article on " Resection of the elbow-joint," in the *Encyclopædia of Surgery*, the author says that the danger of flail-like conditions after resection of the elbow-joint is a myth. That depends on how much you take away, for here we have that condition most certainly present.

Now, a course of procedure has suggested itself to me, which I would like to submit, and that is, that if after a fair amount of time has passed away, say twelve months, would it be a desirable thing to expose the ends of those bones, to refresh them and to bring up together the ulna and the humerus again and attempt to get ankylosis, as we would in a case of non-union in pseudarthrosis after a fracture? I would like to submit that for the after-discussion. We are more frequently called on to discuss what will relieve a case of ankylosis, rather than mobility; but I think that if at the end of twelve months, the condition still made it desirable, we might refreshen the ends of those bones and bring them together and try and get some consolidation there.

Dr. ROCKWELL.—To make it more clear, at what angle would you bring them together?

Dr. PILCHER.—At a right angle.

The anterior part of the humerus might be beveled off sufficiently to form a very fairly freshened space, against which a similar freshened space on the radius and ulna might be brought, being maintained there by sutures, if it seemed best, and no one objected.

It is about three years now since a man of some forty years of age presented himself to me with carpal disease. It was quite recent, but had advanced with rapidity. The carpus was in a state of degeneration and extensive abscesses had formed and were forming themselves upon the surface. Not only was the carpus involved and the soft parts about it, but the infiltration extended well up on the hand. The question there was whether to amputate or to perform a resection. In that case, which ante-dated the last two cases which I presented, I adopted a middle course. I resected the carpus, but did not with the degree of thoroughness which I did in the preceding cases, clear out the infiltrated matters which extended down upon the hand, with the expectation that after I had removed the portions that were the worst diseased, and a free vent to the secretions was provided, together with free topical applications of iodoform, which was supposed at that time to have some anti-tubercular force, I might have a cure brought about. The result was, that instead of getting better, it went on from bad to worse, and after a couple of months he went into either Bellevue or Charity Hospital to have his hand amputated.

About the same time that this young lady presented herself to me, there came to me also a case of carpal disease, which was in a young man of about twenty, who had a history of trouble, dating back for about three years, having its origin from over-strain or over-use of that part from constant chopping on the block with a butcher's cleaver. It had been under conservative treatment during this time, by immobilization and counter-irritation. Notwithstanding this, although tempo-

rarily arrested, the disease had broken out again and had gone on until at the time he presented himself to me, the tissues about the joint were riddled with abscesses, and it was in an extremely bad condition—a condition that certainly might have warranted an amputation.

This young man was strong and robust and apparently free from disease of every other kind, and it seemed to me if a sufficiently radical effort was made to remove every portion of the diseased tissue, that a possible retention of the hand might be gained for him. So, early in November I operated upon him, in the course of the operation all of the carpal bones were removed, except the trapezium which did not seem to be involved; that was retained, especially from the fact of its being the point of articulation with the thumb, and therefore a retention of it desirable, for the sake of the future possible function of that important part of the hand. The lower portion of the radius and ulna were both of them much diseased, and it was possible, in removing them, to make a somewhat cup-shaped incision, which, indeed, naturally resulted in the thorough removal practiced, for that portion of the bone toward the middle line of the forearm was the most affected part in each. So, an oblique section of both the ulna and radius was made in removing them. The line of external incision was determined by the point where the greatest amount of disease in the soft tissues presented itself, in order that the abscesses might be opened, and that the infiltrated gelatinous substance might be thoroughly removed. Thus the line of incision was over upon the ulnar side of the hand, and upon this side of the hand the tissues were so thoroughly broken down that a considerable loss of substance of the soft parts, as well as of the bones beneath, was necessary. Along upon the ulna an abscess track had dissected itself for some distance, and this was thoroughly cleaned out. It seemed to me a question whether, upon suture of the skin, it would retain its vitality, but notwithstanding, that was attempted, and though some loss of substance did take place, it cicatrized happily. A considerable opening was left on the ulnar and dorsal aspect of the wrist without any attempt being made to close it, although all the diseased portions forming its surface were removed. A counter opening was made on the radial side. I stuffed with a sponge the large cavity which was left between the metacarpus in front and the bones behind, with the idea that the sponge might serve as a frame-work into which the granulation tissue might permeate and be supported while it was being organized, and that I might have new tissue fill in this space, which would prevent the deformity which otherwise might be produced by the dropping of the hand to the ulnar side.

(The doctor here presented his patient.)

I dress the case once in two weeks. All of the sponge has not yet

been absorbed. The tendency for the hand to be drawn over to the ulnar side is manifest. There is quite a space left here, some of which is still occupied by the sponge. I propose now to thoroughly scrape out the cavity, removing all the debris of the sponge on the superficial layer of granulation tissue, and getting a fresh surface, to thoroughly disinfect it, and allow it to fill up with blood clot, with the hope that it may organize and thus bring the treatment to a finish. If that can be accomplished, it seems to me that the amount of deformity from the drawing over to the ulnar side will be reduced to a minimum.

By way of recapitulation—I would like to call special attention

First. To the influence of age in the prognosis of joint affections which present themselves to us, and the bearing which age may have upon the choice of the operation which we shall adopt.

Second, To the question of the propriety in cases of these flail-like joints at the elbow—of adopting, after a reasonable length of time, measures similar to those which we use in cases of pseudarthrosis after a fracture—and also as to the probability of obtaining a definite advantage from the method of healing under the moist blood clot of Schede.

Dr. FOWLER.—The question of the influence of age upon the choice of operative procedure in this class of cases is an important one, and as bearing upon that point I recollect a case of a little child that developed pyæmic abscess at the tenth day after birth. In that particular case the abscess affected both shoulder joints and the hip joint at one side. The patient came under my care after about the third week. At that time both elbow joints were thoroughly riddled with sinuses, and exposed bone could be felt in the neighborhood of the articulation of the head of the humerus. In that case, although with these abscess implicating the most important articulations in the body, a free incision and rubber drains and antiseptic irrigation accomplished wonderful results; the sinuses healed, and the functions of both shoulder joints were completely restored. In the case of the hip joint the disease ran a somewhat longer course, but that, too, finally got well, with an occasional return of the sinuses and exfoliation of the bone. The child is six years of age now, and there is apparently about six inches shortening of the hip-joint, the two shoulder-joints are both shortened somewhat.

The doctor's remarks in regard to the amount of functional debility following exsection of the shoulder-joint are very pertinent at this time. I saw within the last two weeks the case of a soldier of the Fourteenth Regiment, of Brooklyn, who had had four inches of the shaft of the humerus removed, and he followed his trade as a painter, and he uses his arm with comparative freedom. His injury was of the character

described by Dr. Pilcher—a gun-shot wound of the shoulder-joint received in the war.

I saw about a year ago a man who had lost the head of the humerus in the war ; two inches of the humerus of the right arm was removed, and for fifteen years after he was discharged from the service disabled, he drove a Broadway stage.

I think a wonderful amount of reparative power is to be expected in cases of joint disease in little children. In the case of the elbow-joint I think the same holds equally true as in cases of the shoulder-joint. I was called to East New York two or three years ago, to see a case of lateral dislocation of the ulna upon the humerus. It had been under the care of a surgeon of this city, who had applied the Bond elbow splint, and the result was that inasmuch as the dislocation had not been reduced, one of the rods was brought to bear sharply against the outer condyle (the dislocation was inward) and the result was ulceration of the soft parts and necrosis of that condyle, and the disease finally invaded the joint. I saw it three months afterwards. The patient, a little child eight years of age, was put under ether, and an attempt was made to explore the joint. Upon exploration it was found that the disease extended very well up into the cancellous tissue of the inner condyle, and had extended to the articular extremity of the ulna, so it was decided to perform an arthrectomy.

In the case of an adult I should not have ventured to do a partial operation ; I am sure that finally amputation or exsection of a much greater portion of the bone would have been necessary. In this child, my faith in the reparative power which childhood possesses, and the comparative immunity from accidents to the joints, led me to remove only those portions having the greatest appearances of disease. It resulted exceedingly well, and a good useful limb was left.

In an old man of sixty years of age, some years ago, there was a compound dislocation of the elbow-joint, necessitating a resection. The case was suppurating freely when it came under my care, and I removed a portion of the articular extremity ; that is to say, I divided below the line of the epiphysis of the humerus, and perhaps about three-quarters of an inch of the ulna, and in this case it was necessary to perform two subsequent operations to remove portions of the bone ; he finally made a good recovery, and lived fifteen or sixteen years afterwards. During that time he wore an apparatus made by Dr. Hudson, of New York, well known in the manufacture of this kind of apparatus, which consisted of an iron frame-work, covered with leather with a movable joint at the side of the elbow, enabling him to get as much comfort out of it as possible ; he lived, as I said, for fifteen or sixteen years afterwards, and he continued to have a comparatively useful arm. The point, how-

ever, is that while in the case of the child I was prompted to do a partial excision, a similar attempt on a man advanced in years was an utter failure.

In the matter of the wrist-joint, I remember this young man that the doctor presents here with the history of having sprained his wrist-joint. There was some swelling and stiffness about the joint; I put it on an anterior splint and plastered the whole dorsal aspect of the wrist; and he made a good and speedy recovery. He had good use of the arm and wrist when I saw him last, and he expressed himself as being well and anxious to go back to work. I enjoined upon him the necessity of keeping quiet for fear of a relapse, but as he did not heed and went out to his work, my prediction was correct.

In the method of operating upon the wrist-joint, I recall a man in the St. Mary's Hospital who had a compound dislocation of the ulna; I saw him the third week after it happened; the carpal bones were diseased, and there was necrosis of the lower portion of the ulna, which portion had to be removed. Excision of both rows of carpal bones was done, and in that case with careful antiseptic precautions, in spite of the fact that it was suppurating when it came in, the man made a good recovery. He is now following his business as a sailmaker, and asserts that he can use his hand, not well, but he can grasp his work with it while he plies his needle with the right hand. There is a strong abduction of the hand to the ulnar side, and as you may readily imagine with four inches loss of the ulna this would be considered a source of very great inconvenience, but in spite of that he has exceedingly good use of the hand. I cannot help, therefore, but concur entirely in Dr. Pilcher's views of the matter of extensive interference in children and adults, and I also thoroughly endorse his views to the necessity of pretty thorough extirpation of the disease in adults.

In the matter of ankylosis, the suggestion to do the operation secondarily for the bringing about of ankylosis, is new. But I remember seeing a case operated upon by the late Dr. Martin, of Albany, where ankylosis was produced at the time of the operation, but in that case comparatively little of the joint was removed, and the ankylosis was not in the best position possible for usefulness of the limb. I say it was brought about—I do not know whether purposely or not. The case treated by Dr. Martin was a case of excision of the elbow-joint; the man applied to me for relief of the faulty position of the arm, and I made an appointment with him, but I have never seen him since. I thought in a case of that sort the position could have been corrected, and his arm made more useful to him.

In regard to the question of the formation of clot, I have no experience with the attempt to form a clot in that neighborhood, but in a

recent case, which might be suggestive in this connection, I laid open freely a prepatellar bursa, and stuffed it with iodoform gauze for forty-eight hours and then scraped the interior, and it filled with blood clôt, and the healing was rapid and complete under a single dressing. Whatever became of the blood clot I do not know, but there was no tumor there. I am a little sceptical as to the successful outcome of such an attempt as the doctor suggests.

Dr. THALLON.—I would like to raise one point in connection with the second case the doctor has mentioned. In case it becomes necessary to perform the operation he proposes for the production of ankylosis of the elbow-joint, why would it not be preferable to produce ankylosis between the ulna and humerus, and not freshen up the radius, so possibly leaving the power of pronation. In case the length of the radius is such when he brings the ulna and the humerus together that it would impinge upon the humerus, I think it would be preferable to take off a portion of the radius and shorten its length in order to preserve some power of pronation.

Dr. CREAMER.—I hardly think there will be any occasion to reopen the arm again. I think it is only a question of time when there will be an amount of improvement if the child is made to exercise the arm, this of course preceded by passive motion on the part of the attendants continued daily for some time.

As to the matter of shortening the radius, I have in all the excisions of the elbow made by myself, invariably cut the radius shorter than the ulna, as I think you get the movements of pronation and supination better from the fact of union not being so likely to occur between radius and ulna as if cut at the same level.

Dr. ROCKWELL.—It would seem to me that there will be a mechanical difficulty in fastening the bones at right angles. If union be secured between the ulna and the shaft of the humerus, which I think can be, the union would not be sufficiently firm to make the arm very serviceable, and I do not think bone union would do as well as the apparatus described by Dr. Fowler. I think, however, with Dr. Creamer, that it will not be necessary to open the joint again.

Dr. LEWIS.—In the removal of the lower end of the humerus, was it necessary to remove it far enough up to take in the muscles that go down to the forearm?

Dr. PILCHER.—Some of the supinator longus fibres were involved, but they were not all removed. The muscular tissue was pretty well broken down there, and all that we had left if there had been much inflammation afterwards, would have been new cicatricial tissue, but we did not have any inflammation after it. The attachments of those muscles were pretty well destroyed. The biceps muscle was retained in its

integrity and attachment. The lower part of the brachialis anticus was preserved—the muscle was preserved although its attachment was taken away. The attachment of the triceps muscle was also entirely gone.

Dr. LEWIS.—My point was, was not the union something more than skin and fibrous tissue?

Dr. PILCHER.—There is undoubtedly some muscular fibres there, but just how much I do not know.

The suggestion of Dr. Thallon is certainly a good one, only in doing as he says, you would have to sacrifice the biceps insertion, and that would mean the sacrificing of considerable power in controlling hereafter various movements of the arm. Of course it would not give us much power, but with its attachment above it would have a lifting influence upon the whole arm, at least in certain positions.

SURGICAL FEVER.

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In modern surgical practice, this phrase being understood to include the period which has elapsed since the introduction of antiseptic and aseptic methods in wound treatment, and the general recognition of Listerian principles governing the occurrence of wound sequelæ, but two varieties of fever are recognized as following the infliction of traumatism, namely, septic and aseptic fever. The indefinite terms made use of by the older writers, such as "constitutional irritation," "sympathetic inflammatory fever," etc., etc., indicating a general condition arising from the presence of injured tissues, are now generally abandoned, being replaced by the terms infectious and non-infectious, or septic and aseptic fever.

Experimental research and clinical observation have established, as the essential characteristic of fever, an increase of the bodily temperature. It is rarely absent, in a greater or less degree, after a wound or injury of any gravity. The variety most commonly met with in the beginning of the train of symptoms following the reception of the traumatism, the aseptic form, may be verged into the more grave or septic variety in a manner leaving us almost entirely in the dark as to the exact moment when the one ceases and the other begins. The pure fever, however, may be said to lack the peculiar concomitant symptoms so invariably present in well marked instances of the septic form, or that due to the entrance into the blood of infectious material.

The susceptibility of the patient to those influences which produce fever in either of its forms is a matter not easily explained. This may determine, on the one hand, a degree of fever out of all proportion to the extent and character of the local injury, while on the other hand, bruising and even considerable mutilation of the tissues may not be followed by a high grade of fever. The personal equation element enters largely into the question, no doubt, while peculiarities of constitution, conditions of health and surroundings likewise govern, to a considerable extent, this so-called predisposition. Yet, after all these have been taken into account, there still remain differences not easily accounted for. We are all familiar with the clinical fact that in persons the subjects of chronic disease, a relatively severe injury may not be followed by a high temperature, while on the other hand, those in previously good health may suffer considerable disturbance, accompanied by a sharp exacerbation of fever.

It is only during the past few years, or since the beginning of what may be termed the antiseptic or aseptic era in surgery, that clinicians have come to recognize that variety of fever here designated as the aseptic. To Volkmann belongs the credit, perhaps more than to any one observer, of having brought forward its more prominent features. It is identical with those forms of fever formerly described as of the mild traumatic variety, this mildness of the type being determined, not so much by the lesser elevation of the temperature, as noted by the thermometer, as to the absence of those grave symptoms or indications of the presence of a serious pathological condition so commonly noted when we have to deal with a febrile state which depends for its causation and continuance upon the presence of infectious material in the blood. To this form of fever Volkmann has given the name of "subcutaneous fever," a name somewhat unfortunate, inasmuch as this designation implies its presence in injuries of a subcutaneous nature only, when, as a matter of fact, it may occur under other circumstances; for instance, it has been observed that the same rise of temperature follows an operation conducted in a strictly aseptic manner, in wounds, perhaps essentially, yet not actually of a subcutaneous nature. To be sure, in these latter instances we cannot be absolutely certain that no infectious material has entered into or upon the wound surfaces; yet the occurrence of the fever at a time so recent to the exposure of the wound to the air as to preclude the belief that decomposition of the wound secretions could have taken place, and the entire absence of the usual and easily recognized accompanying symptoms of entrance of infectious material into the circulating fluids, lead us to regard the fever as of the aseptic form.

The aseptic variety of fever, then, may be said to be a fever in

which no septic infection enters into its ætiology. Its leading, and it may be said also that this is its only constant symptom, is the rise of temperature; this latter ranging from 100° to 102° Fahr. in the morning, to 103° and upwards in the evening. If no antipyretic measures be resorted to, this variation may continue for upwards of fifteen days. The striking peculiarity, however, in connection with the clinical history of fever as met with in this class of cases, is an almost entire absence of the languor, dryness of the skin, muscular weakness and other concomitant symptoms incident to fevers of a known septic origin. On the contrary, patients express themselves as feeling perfectly well, are inclined to be talkative, if the nature of the injury will allow of it, they will even walk long distances. Were it not for our routine practice of observing the pulse and temperature variations after injuries and operations, the existence of fever in these cases would either entirely escape observation or be very much undervalued. The heat of the surface is such as not to attract attention, and the skin may even be moist; not seldom profuse perspiration takes place. *Pari passu* with the elevation of the temperature occurs an acceleration of the pulse, as a general thing; cases occur, however, in which the pulse rate is normal. Even in cases in which the pulse is quickened, the weakness on the one hand, or the abnormal strength or tension, on the other, so commonly observed in fevers of a septic origin, are wanting. There are no symptoms referable to the respiratory, digestive or excretory organs, except that the urine is at times rather more copious than normal, with an increase of urea proportionately to the height of the fever. No diminution of the chlorides has been observed. The nervous system does not appear to suffer the slightest disturbance, thus differing most strikingly from the septic variety. There is no pronounced effect upon the tissues resulting from the elevation of temperature; the persistence of the temperature elevation for from ten to fifteen days causes only a slight decrease of the weight of the body.

The cause and severity of an attack of aseptic surgical fever, other things being equal, is generally proportionate to the extent of the local injury, the extent of the area of extravasation of blood in the tissues, and the resulting inflammation. Various theories have been advanced to account for the production of the pure fever under these circumstances. In the first place, the influence of the more or less modified waste products resulting from the rapid retrograde metamorphosis occurring in injured tissues, has been suggested as bearing a causative relation to fever. It has been shown by Edelberg that the most widely differing ferments in the blood, particularly the so-called free fibrin ferments, will in like manner affect the heat centres. Stricker and Albert have shown that the immediate transmission of blood from the arteries

to the veins without passing through the intervening capillary territory is followed by fever. This must frequently occur in subcutaneous injuries, and in all probability is a common cause of temperature elevation, without there being necessarily present a source of infection.

The observations of Schmiedeberg show that the introduction of the so-called fibrin ferments in small quantities into the blood in such a manner as to avoid coagulation produces a decided rise of temperature. Inasmuch as disturbances of the white blood corpuscles lead to the production of these fibrin ferments, disturbances of the circulation due to large extravasations, or secondary inflammation following thereon, by destroying large numbers of the leucocytes, lead to the production of these fibrin ferments, and a rise in temperature in consequence thereof.

Similarly, modifying the character of the circulating fluid by means of the introduction into the vessels of pure water, blood serum, or hydrocele fluid, causes an elevation of temperature. Hence the disturbing element, by modifying or altering the relation of the leucocytes to the blood, leads to the formation of the before-mentioned fibrin ferments. Transfusion will lead to rise of temperature in the same manner, although it has been observed that excessive loss of blood, independently of the transfusion, leads to fever.

From time to time, experimenters have been led to seek for an explanation of these phenomena by locating an inhibitory heat centre in the central nervous system.

In 1874, Schreiber, of Königsberg, in a work upon the influence of the brain on the bodily temperature, published the results of his experiments in determining the existence of a heat centre in the cerebrum. These consisted in producing greater or less traumatism of the anterior lobes of animals, and observing the varying degrees of temperature following. These experiments, however, were faulty, in that the animals were removed from the operating room to one of a higher temperature, which in itself, according to Davy, is sufficient to produce an appreciable elevation of the bodily temperature. In all but one of the animals operated upon, but a slight rise occurred; in this, after death, it was found that a severe injury to the anterior lobe on both sides of the corpus callosum had been inflicted. Subsequently, Budge showed the course of the vaso-motor fibres in the crura cerebri, and Lussara ascribed vaso-motor functions to the thalamus opticus. In a report made at the session of the Physiological Society of Berlin, of June 20, 1884, Prof. Christiani asserted that while the temperature remained normal after removal of the hemispheres of animals experimented upon, extirpation of the thalami optici, in animals which survived the mutilation, was followed by a fall of from three to five degrees C.

Tschetschechin, at the Berlin Physiological Institute in 1886, demonstrated that section of the prolongation of the medulla oblongata in the cranial cavity adjoining the pons is followed by febrile symptoms, and declares the existence in the brain of inhibitory heat centres. Three years later, Naunyn and Quincke performed section of the medulla in dogs, and, as a result of these experiments, concluded that nerve fibres exist in this locality, running from the brain, by means of which a modifying influence is exercised on the heat-forming processes in the organism.

E. Annsohn and J. Sachs,* from whose writings these facts are gleaned, performed a series of very carefully conducted experiments, in 1884, with the view of determining the existence of a heat centre in the cerebrum. Carefully avoiding the corpora quadrigemina, ventricles, etc., a needle was made to perforate the anterior lobes to the central portion of the cerebrum, when, after several trials upon different animals, a place was found at which injury was rapidly followed by fever symptoms. The following is a *résumé* of these experiments: The animals were not tied during the operation nor anæsthetized; they were fed equably during the whole time and kept in a room with a uniform temperature of about 15° C. In rabbits, the animals chosen for experimentation, the convolutions are so illy defined that it was impracticable by their aid to designate the point of puncture; therefore, points upon the osseous structures were utilized as landmarks. A point was determined lying somewhat laterally from the junction of the sagittal and coronal sutures, at the great fontanelle, which is usually visible on making a longitudinal incision through the pericranial structures. In those instances in which this junction could not be clearly defined, a line was drawn between the posterior corners of the eyes and the puncture was made somewhat posteriorly to this line and to one side of the sagittal suture. The trephine was placed with its teeth over the sagittal and coronal sutures. Upon raising up the severed bone, a vessel was generally found proceeding from the longitudinal sinus on each side. The vessel upon the right side ordinarily was found to divide into two branches, an anterior and a posterior. The point selected for the puncture was below the latter and a short distance from the sinus. The dura mater was removed from the lower and posterior segment of the circle with a pointed knife, and the needle, after being thoroughly disinfected, was inserted in a direction perpendicularly, or slightly inclined forward, to the base of the cranium, and at once withdrawn. But slight hæmorrhage followed, the use of the trephine enabling experimenters to avoid the vessels. The wounds were treated antiseptically.

In a large number of experiments almost precisely the same temperature variations were observed. Within an hour following the operation, the temperature was found to be elevated, the increase reaching its maximum within two hours. The thermometer in the rectum recorded 39.7° C. as the normal, prior to the operation; within the first hour 40.8° was reached, and before the expiration of the second hour the average maximum, 42° C., was observed. The febrile condition extended over a period of three days, the animals in the meanwhile running about in a lively manner and apparently suffering but little. There coexisted likewise, as constant symptoms, during the rise of temperature, an increased frequency of the pulse and a diminution of the chlorides in the urine. There was no disturbance of the motor or sensory apparatus, and the animals were, with the exception of the above symptoms, apparently in perfect health.

The temperature variations were measured in different portions of the body by the thermo-electric method. Wiedmann's apparatus, with two well-insulated needles, one of which was held in a constant source of heat, while the other was inserted into the bodies of the animals, the skin, gluteal muscles, and liver being chosen for that purpose. The rectal temperature was determined by the thermometer of Geissler. The observations show that the bodily temperature was affected by the punctures, that of the rectum, skin, and muscles rising and falling simultaneously. The animals, after the third day, returned to their normal condition, but subsequent puncture in the locality produced a renewal of the symptoms.

A second series of experiments was made with the view of determining whether more than one such centre existed in the cerebrum. These included trephining the skull of animals in different locations, as well as puncturing the brain through the orbit. In these, motor disturbances, etc., were produced, yet no marked rise of temperature occurred unless the area above indicated was invaded. Injury to the cortex or of deeply lying portions of the brain as a cause of the rise of temperature, was eliminated by the fact that incision and cauterization of these gave rise to no such constant train of symptoms.

Although it was not found possible by the experimenters to precisely locate the ganglion involved in these experiments, yet the facts indubitably point to the existence of an inhibitory heat centre in the cerebrum.

Thus far I have simply indicated the circulatory disturbances in their relation to temperature elevation. There can be no doubt as to the occasional disturbance of the inhibitory heat centres by irritation of peripheral nerves. Take, for example, the so-called catheter fever. This, according to Billroth, is an example of pure fever of a neurotic

origin. Most of us are familiar with the fact that the simple introduction of a catheter or sound into the urethra is often followed by high temperature, without any injury to the urethral mucous membrane or introduction of septic material into the blood. Here an impression is sent up an afferent nerve to one or another of the inhibitory heat centres, if more than one such exist, which, at first excited to increased action, leads to a reduction of the animal heat, and a chill follows. A persistence of the irritating cause finally results in a lessening of the activity or a paralysis of the heat centre, and an elevation of temperature results. Therefore, an attack of urethral fever may be classed among the aseptic or pure fevers.

One thing in connection with this subject should not be lost sight of, and that is the impossibility, at times, of distinguishing between a mild septic and a moderately severe aseptic fever, particularly in operative cases. However well our aseptic conditions seemed to be assured, or careful our precautions, in the latter class of cases the line between the comparatively innocent condition on the one hand and the graver cases on the other cannot be sharply defined. Errors of technique will creep in with the most careful and conscientious asepticians among us, and it may even occur that septic material or poison will be transferred from the blood current into the wound secretions, whilst all of our efforts are directed to preventing its entrance from without. Under these circumstances it is our imperative duty to treat any but the mildest type of primary traumatic fever following wounds as septic or infectious fever.

To sum up, therefore: 1st. Every acute inflammation is a cause of fever, whether produced by mechanical or other causes; this fever is more distinctly marked in proportion to the area involved in the injury and the rapidity with which the fever occurs. 2d. The fever is dependent upon the inflammation, and not upon any suppuration which may ensue, and is rather to be referred to the changes which take place in the walls of the vessels incident to the inflammation and its cause, and which allow of the entrance into the blood current of a more or less continuous supply of anomalous waste products which have only partially undergone those changes which occur in health, and which are here supplied to the circulation in unusually large quantities in a given time. 3d. The typical aseptic traumatic fever, as here understood, is a febrile movement, pure and simple, and not to be confounded with the fever of sepsis, which it in no way resembles.

I approach the subject of septic or infectious fever with some hesitancy. The advances that have been made in the study of putrefactive processes, and the knowledge gained by clinical experience and experimental research, have been so rapid and great during the past

few years that it would be almost impossible, in a paper of this kind, to cover the ground with any degree of completeness. It may not be uninteresting to some of us, however, to know that the connection of the processes of putrefaction with fever was not unknown to careful observers of olden times. We find even Hippocrates and Celsus, and following them, the surgeons of the 16th and 17th centuries, Paracelsus, Wurtz, Parè, and others, having a well-founded knowledge of this subject. The first, however, to submit to the crucial test of experimentation the views held up to his time was a French physician, Gaspard, of St. Etienne, in 1822, and it is with his work that the scientific history of septic fever begins. In a series of experiments upon animals, he showed indubitably the fact of the existence of septic fever, or a fever depending for its existence upon the presence of infectious material in the circulating fluids of the body. In connection with these experiments, it may be said, however, that Gaspard viewed the matter purely from the standpoint of the physician; and, in his observations, now grown to be classical, curious as it may seem, he never seems to have thought of the influences of putrefactive processes upon wound surfaces, and the possibility of the production of fever in this manner. Undoubtedly the occurrence of an epidemic of fever with symptoms referable to the intestinal canal first gave him the cue. He proceeded to the production of putrescent fluids by the maceration together of animal and vegetable substances, and injected small quantities of this both subcutaneously and into the veins of animals, by this means producing disease and death, and establishing, undoubtedly, a claim to the position of a pioneer in this particular method of arriving at positive conclusions concerning the potency of the baneful influences of this class of poisons when introduced into the circulation. His work, showing that putrescent material introduced subcutaneously and thus gaining entrance into the circulation will produce essentially the same train of symptoms as when introduced through the intestinal canal, has been endorsed by many competent authorities, and has led to lines of investigation which I need scarcely rehearse at this time.

We are led, both by reasoning and experimental research, to recognize two kinds of septic fever, the one depending upon putrescent material as it is received from without, as in the observations of Gaspard, and the other having for its causation conditions brought about by decomposition of the fluids of the body itself. To the first the name hetero-genetic septic fever may with propriety be applied, while the latter is known by the term auto-genetic. The first named, or hetero-genetic variety of infectious fever, we, as surgeons, will not discuss, but will direct our attention only to the auto-genetic form, or septic surgical fever.

As a matter of fact, the affection under discussion is not to be viewed altogether as an auto-genetic form of fever, inasmuch as the cause of the putrefaction comes from without, and, gaining entrance into the fluids and tissues of the body, produces putrefaction of the same. These latter, however, part and parcel of the body as they are, once the fermentative or putrefactive processes are set in motion, furnish the poisonous materials which, entering the blood, produce the septicæmia or septic blood disease, as it may with strict propriety be called, of which elevation of temperature or increase of animal heat is but one of the symptoms.

Gaspard's observations at first attracted but slight attention from scientists. Upwards of a quarter of a century, however, has elapsed since two German surgeons, almost simultaneously and from a surgical standpoint, took up the researches of Gaspard. Since that time the ground has been gone over again and again by a number of observers. To follow all of these would be here manifestly out of place; but it is important that we should come to realize that all is not chaos and confusion, as in the beginning, when leaders of scientific thought were rather inclined to first formulate a theory and thereafter compel the facts to fit the same. Certain conditions being complied with, each may now feel to be working upon common ground.

Starting with the acknowledged proposition that putrescent fluids will produce fever, the inquiry naturally arises, what component parts of the same are essential to this end. It was first considered necessary in the study of the properties of putrescent material to distinguish between those which came into existence with the fluid itself, and those which developed in the course of putrefaction. In the fluid undergoing the first stages of putrefaction are found, for instance, in addition to the micrococci, remnants of the tissue in which the processes of putrefaction take place. This would include the corpuscles in putrefying blood, in putrefying pus, pus corpuscles, etc. In addition to these, the putrescent fluid contains a number of soluble chemical materials and certain albuminoid substances. To establish by experimental research the exact part which each of these latter plays in the production of fever as well as the concomitant symptoms of septicæmia, has engrossed the attention of some of the most careful and skillful observers and experimenters of modern times. The question of the production of the train of symptoms by an intoxication, rather than by an infection, designating by the former title a poisonous effect produced by a poison not capable of multiplying itself, while by the latter may be understood an effect produced, continued and increased by a poison capable of self-multiplication,—in other words, depending upon living organisms for its existence, was among the first requiring eluci-

dation. To the earlier investigators the want of complete and reliable instruments and methods was keenly felt, and for a long time the very existence of living organisms in the fluids examined was doubted and affirmed again and again, as each observer was more or less skillful in the use of the microscope, and in the preparation of mountings. But as time went on, the belief that septicæmia was an infection rather than an intoxication gained ground, the method of using the bodies of living animals themselves as the medium for cultivation and propagation of the living organisms as practiced by Davaine with success, even to the tenth generation of the same, finally settling the question and establishing upon a firm foundation the germ theory of the production of septic fever and other conditions. The history of earlier investigations reads almost like a fairy tale, from the attempts of O. Weber and Billroth to establish the poisonous properties of the ammoniacal compounds resulting from putrefaction, through Bergmann's efforts at isolating and crystallising a material which he called sepsin, small quantities of which, introduced into the animals, destroyed them; the experiments of Hueter, of Greifswald, in 1873, who advocated and demonstrated the existence of living spores in the blood of septicæmic subjects, down to Birch Hirschfeld's and Koch's confirmation of Hueter's views. The work of Koch alone would fill a volume, beginning with his apprenticeship under the botanist Cohn, and its continuance as the Director of the Imperial Board of Health. Under the searching investigation of Koch, and his ingenious methods, the progress of the study of infectious processes advanced rapidly, culminating, so far as the question of the actual existence of living organisms in the blood of septicæmic subjects is concerned, in the discovery of the methyl violet staining process and the application of Abbe's method of illumination. Following the demonstration of the existence of living organisms, cocci and bacteria, in the blood, came the question of the rationale of their action. Every spore was considered by some as having a poison zone, so to speak, which may be considered as the result of a tissue change. The effect of these upon the white blood corpuscles, causing the latter to adhere to the walls of the smaller blood vessels, and, finally, the exit of the leucocytes from the vessels and their entrance into the perivascular spaces,—these are mooted points awaiting the genius of another Koch, perhaps, to make their elucidation complete and their solution a demonstrable certainty.

Sufficient has been learned in the study of this necessarily abstruse subject to warrant us in adopting the term septic fever; should the theory of a self-multiplying poison continue to hold ground, as now seems undoubted, the term "infectious traumatic fever" will probably be considered the more correct of the two.

There is a primary wound fever, which is of the infectious variety, but which may follow so closely in the train of an aseptic fever, as mentioned when speaking of the latter, that it is impossible to determine when the one leaves off and the other begins. I refer now to the fever mentioned by Dr. Westbrook, in an able paper presented to this Society last month, as an intermediate variety, following the infliction of an injury and ceasing with the occurrence of suppuration. That this really occurs in the manner I have indicated is supported by the fact that its cessation is coincidental with the development of a granulating surface. The fever attains its height during the period when the radicles of the lymph vessels are open, thus favoring the most rapid absorption. The behaviour of a wound fever under these circumstances is a strong argument in favor of the existence of an infection auto-genetic in character; for, if we had to deal with a soluble and diffusible septic material, such as Bergmann's sepsin, the slight barrier afforded by the thin walled capillaries in the granulation tissues would be all too insufficient for the protection of the system at large against its evil influences. The readiness with which septic infection and absorption take place from wounds in regions where strong and dense fasciæ, as for instance, that of the palm of the hand or the sole of the foot, where pressure favors the process, is known to favor the development and persistency of a high grade of fever, as well as affording the best examples of the occurrence of well-marked lymphangitis and lymph-adenitis. Again, this view is favored by the continuous character of the fever in those cases of progressive gangrenous ulceration, where invasion of new areas of territory lead to the opening successively of new lymph vessels and their contact with putrescent fluids. Reasoning from these facts, it would seem that, with the cessation of the circulation of lymph in the lymphatic channels and glands, septic absorption and septic fever must cease. This is in accordance with clinical experience.

Probably the cases of most common occurrence, and thus constituting the most familiar examples of rapid infection and severe fever, are those in which deep penetrating wounds of the soft parts are accompanied with but slight breaches of continuity of the surface. In other words, where fasciæ and subfascial connective tissue planes, the bellies of the muscles, with perhaps joints and medullary canals of bone are invaded; where drainage is deficient and opportunities for burrowing of putrescent fluids are ample.

I have not attempted to picture the course of cases of septic or infectious fever as we meet them, for the time at my disposal will not permit of it. Alas, the picture is only too familiar to the busy practitioner of surgical art, for we have patients sitting for it more or less

continually; and this must continue to be so, as long as accident and injury are parts of the daily life of the busy world, and until that millennium is reached when each individual, like the soldiers of the Prussian army, shall carry in his pocket an Esmarch package of potent antiseptics for the immediate disinfection and dressing of his anticipated wound.

DISCUSSION.

Dr. PILCHER.—It seems to me, Mr. President, that there is a possible danger connected with giving prominence to the idea of aseptic surgical fever. At the present time certainly, in the great majority of cases, the fevers that follow surgical injuries are septic in their origin, I think, and if we permit our minds to become possessed with the idea that feverish symptoms following injuries are probably of the class which have been so ably described this evening as aseptic, and we fail to take that immediate or early means for their relief which we would if we thought they were septic in their character, we are in danger of omitting to do what is best for our patients. It is doubtless the case even that in many subcutaneous injuries the fever which follows is septic in its character, and if we realized this, and would take the trouble to explore the regions affected, we should find much earlier than we often do that there were present septic conditions of grave character that would demand that such subcutaneous injuries should be converted into open wounds, and that all of the methods known to us for overcoming sepsis should be instituted.

I simply throw out this point merely as a bit of warning that in all cases where there is manifest fever following upon injuries, it is best for us to satisfy ourselves that it is not septic, rather than to accept the belief that it is aseptic, and to put the burden of proof upon the other side.

In connection likewise with this subject of aseptic fever it has seemed to me possible that not sufficient prominence has been given by the reader of the paper this evening to the results of the tension of tissues. After surgical operations, where we expect to have an aseptic course of the wound, we are in the habit of endeavoring to secure perfect coaptation of the surfaces, and the attempt is being made by us (more and more perfect and complete as we have more confidence in our antiseptic precautions) to do away with the drainage altogether, and to depend entirely upon the natural absorptive power of the tissues to take up and carry away the effusions which necessarily are poured out in any region which has been wounded. The consequence of this is, that there must be in the wounded region, for a time at least, considerable tension. We are well acquainted with this, and recognize it as always following subcutaneous injuries. After a simple fracture we expect that the parts will swell, and in the provisions which we make

to take care of a simple fracture we provide for the swelling which takes place during the first thirty-six and forty-eight hours following the injury: the necessary result of the pouring out of the fluids into the tissues is a certain amount of tension therein, and I am inclined to think that to this tension must be attributed, in some measure at least, the feverish reaction which follows in these cases, and which has been described as aseptic surgical fever; in some degree, therefore, this fever is due to local irritation, it is an irritative fever, of neurotic origin; there is compression of sensitive and wounded nerve filaments by tension of the tissues. At the same time we are to take into consideration the reactive effect upon a mobile and excitable constitution of the traumatism to the nerve filaments which has taken place, in which there is to be found another element of surgical fever. So that if we add the results of tension, and those of immediate irritation of wounded nerve filaments to those of the absorption of the fibrin ferment, we will have a more complete view of the causation of aseptic surgical fever.

As a typical example of this kind of surgical fever, I recently had a most excellent demonstration in the case of a young lady of highly excitable nervous organization, whose general condition had been rendered more than usually excitable from the anxiety incident to the development of a tumor in her breast. I had the opportunity of removing the breast under extremely favorable conditions for the prevention of septic infection, and so favorable were these that I was able to do away altogether at the time of the operation with the use of any of the so-called antiseptic agents as substances to be applied to the wounds themselves; even my instruments, previously cleansed, at the time of the operation were put simply in distilled water. The tissues exposed in the course of the operation were irrigated with warm distilled water; there was no drainage tube inserted as a part of the dressing, nor were drainage strands of any kind inserted. After complete hæmostasis had been accomplished and the flaps had been laid in their places, perfect coaptation of the wound edges were accomplished by the ordinary catgut suture, and the parts were supported by accurately applied and adapted absorptive and elastic pads, and it was finally so bandaged as to keep the part at perfect rest. At the end of a week, when I removed the dressing thus applied, absolute and perfect union by first intention had been accomplished throughout the whole extent of the wound, though it had been somewhat extensive; from the beginning to the end there was no suppuration of any kind, but during the first forty-eight hours after the operation there was an elevation of temperature up to about 100 degrees. Then, as the immediate effusion was absorbed and the tension of the parts was relieved, this primary surgical aseptic fever subsided and the well-being of the patient was perfect from that time.

ON THE TREATMENT OF THE DISEASE OF INEBRIETY AND THE MORPHINE HABIT, WITH CLINICAL CASES.

BY EDWARD C. MANN, M.D., BROOKLYN, N. Y.

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Alcoholic Inebriety.—From an experience of several years in this field, we take a very sanguine view of the permanent results that can be achieved by the control and treatment of these cases. Those persons who have inherited the neuropathic diathesis are the ones in whom the disease of inebriety and dipsomania is the most easily established. The reflective and perceptive power of the mind are markedly affected by this disease. The mind, in dipsomania, has no power to examine the data presented to it by the senses and therefrom to deduce correct judgments, neither can it perceive and embrace these data.

Pathology of the Disease of Inebriety.—The basis of our cerebral pathology is the fundamental principle, that healthy mental function is dependent upon the proper nutrition, stimulation and repose of the brain; and upon the processes of waste and reparation being regularly and properly maintained. We know that the cerebral cells are nourished by the proper and due supply of nutritive plasma from the blood and that this is essential to healthy function; and indeed, the ultimate condition of mind with which we are now acquainted, consists in the due nutrition, growth and renovation of the brain-cells. If, now, we take into the system an amount of alcohol that causes the blood-plasma to convey to the brain-cells a noxious and poisonous, in place of a nutritive substance, stimulating the cells so as to hasten the process of decay and waste beyond the power of reparation and renovation, and impressing a pathological state on them, we must have inevitably resulting, a change of healthy function, and a certain amount of disease induced. Owing to the abuse of alcohol, we have resulting a change in the chemical composition of the cerebral cells from the standard of health, which is the foundation of organic disease, as it prevents and interrupts healthy function. As a result of the overfilling of the cerebral vessels, or hyperæmia of the brain, from the long-continued use of alcohol, we have at first symptoms of irritation, due to increased excitability of the nerve filaments and ganglion cells of the brain. The symptoms of exhaustion and depression occurring at a later stage are due to lost excitability of the nerve filaments and ganglion cells of the

brain, owing to a want of the proper supply of arterial oxygenated blood to them. This is caused by the excessive cerebral hyperæmia, the escape of venous blood from the brain being obstructed; the result being, that no new arterial blood can enter the capillaries. We may have apoplectiform or epileptiform attacks and paralysis occurring in the course of these cerebral hyperæmias, and they may be due either to obstructed escape of venous blood or to secondary œdema of the brain, in which transudation of serum takes place into the perivascular spaces and interstitial tissues of the brain with consequent anæmia. Analogous brain changes take place in chronic alcoholism and chronic insanity, namely, atrophy and induration of the brain, thickening and increase of the pia mater and arachnoid, permanent infiltration of the former and a varicose condition of its vessels.

The physiological effects of alcohol upon the human body are primarily, congestion, from want of vaso-motor control; loss of muscular control; perversion of will power and absolute prostration of nerve power. Secondly, we have hypertrophy of the heart, structural diseases of the stomach, chronic gastritis and mammillation, cyanotic induration of the kidneys, fatty infiltration of the liver, and at times cirrhosis, alcoholic phthisis, chronic interstitial pneumonia, and a multitude of nervous lesions and even insanity itself. The excessive use of alcohol directly interferes with the uniform and healthy interchange of nutritive plasma passing from the vessel to the cells, and of the fluid cell contents in a state of involution or degenerative metamorphosis, passing from the cells to the vessels; deranges the intimate connection between the nervous and muscular systems through which their most important functions are performed, producing at once grave disturbances of the nervous system, which may eventuate in insanity. The elementary disturbances of the cerebral functions met with in the disease of inebriety, involve processes in the emotional sphere; processes in the sphere of the conceptions, comprising the reason, memory and phantasy; and finally, processes in the psycho-motor sphere, the impulses and the will. Among *emotional* disturbances we find the two extremes of morbid depression and morbid exaltation, and also the conditions of abnormal excitability and abnormal absence of emotion. The morbid processes in the *conceptional* sphere involve and affect the duration, association, intensity and reproduction of conceptions and also comprise the delusions of the alcoholic insane, or false conceptions.

The morbid processes met with in the *psycho-motor* sphere cause the morbid desire for food characterizing alcoholic insanity and the refusal of food by alcoholic melancholias; affections of the sexual propensities, either less or abnormal excitation; the various morbid impulses of

the alcoholic insane, also disturbances of speech. We have elementary disturbances of consciousness, in diseases of the mind resulting from alcohol, such as epileptic states, ecstasy, somnambulism, various states of altered consciousness, and the bewildered state of the mind in the dementia of alcoholism. We have also sensory disturbances in the inebriate, as anæsthesia and hyperæsthesia; motor disturbances; vasomotor disturbances, such as cerebral anæmia, cerebral hyperæmia, venous stasis, œdema of the cortex, and a great many changes in arterial tension, resulting in sudden cardiac disturbances in the inebriate. We find also many anomalies of the vital functions—the temperature, the pulse, digestion, assimilation, respiration, general nutrition and sleep.

The great diagnostic point attending alcoholic inebriety is the *irresistible impulse* by which the patient is compelled to gratify his morbid propensity, being blind during the paroxysm to all the higher emotions, and pursuing a course against which reason and conscience alike rebel. When the disease is fairly established, the craving for alcohol which comes on daily, weekly, or monthly perhaps, is perfectly uncontrollable by the patient. His will is overcome by the force of the disease, and he will invent any pretext for drinking at these times. It is not a moral lapsus at all. It is a true disease, and one which exists to an alarming extent to-day among all classes of society, especially affecting those who have a delicately organized nervous system, females being quite as prone to it as males, especially young married ladies. The disease affects our most brilliant men and women; those who are cultivated and refined, seemingly by virtue of their highly sensitive nervous system. The disease of inebriety is increasing, by reason of the fact that the neurotic circle in society, as well as the distinctly insane circle of society is rapidly increasing. This is due to the increasing complexity of life. The conditions of modern life which act on our complex and excitable nervous systems cause our increased nervous disease, and even mental disease itself. Before the paroxysm of inebriety comes on, the patient becomes uneasy, restless, cannot sleep, becomes very nervous, and finally commences to drink, and rarely stops short of complete intoxication. He continues this course for a week or fortnight, and then is overwhelmed with shame and remorse, and makes many promises to reform, which the friends believe in, as they are very apt to view inebriety as more of a bad habit than a disease. This is not the case, however; it is a disease, and has to be cured—not reformed. The victim of alcoholic inebriety pursues his daily avocation for some weeks, and in some cases for some months, perhaps not touching any stimulants during the interval. When the time for the next paroxysm appears, he again shows the same symp-

toms of prostration and restlessness, with many uneasy vague sensations, and the irresistible craving for alcohol again appears, again to overcome the patient's will, who perhaps tries to fight against his impulses to drink.

A lady, a few months ago, wrote me as follows: "In the interval between my paroxysms I do not taste liquor and have no desire for it. About every second month I suffer from insomnia and neuralgia, perspire profusely, and am so restless that I can't sit still; feel so nervous that I would like to scream, and then the intense craving for alcohol comes on, which I have a horror of, but which I can't resist, and I leave home to get whiskey, and, having obtained it, drink until I am unconscious. Any amount of liquor short of sufficient to induce complete intoxication does not afford me any relief. I feel my degradation, but I can't stop; and my husband thinks I have a bad habit which I could control if I would. God knows, I want to be cured of this terrible craving for drink. Can you help me?" etc., etc.

There are thousands of men and women in this country, especially along the Atlantic coast, where the extremes of heat and cold operate in the production of a very sensitive nervous system, who are to-day inebriates and who want to be cured. In some cases they are not willing to leave home and put themselves under remedial restraint, which is absolutely essential for a cure; and in other cases the patient's friends do not appreciate the true state of affairs, and rely again and again on the promises to reform, which the patient makes after each paroxysm of inebriety. He makes the promise of reform honestly enough, but it is precisely as if a case of chronic or recurrent mania, with lucid intervals, should promise not to have another periodic attack of insanity.

Dipsomania is a periodic mental disease, and it can be cured if regular systematic treatment and remedial restraints for a sufficient length of time be applied. A very much larger per cent. of cures, which will be permanent, can be made in alcoholic inebriety than have ever been shown yet. The cause of failure to cure this disease is the great difficulty in keeping patients long enough under treatment. A man or woman is going to ruin, business prospects are becoming blighted, domestic misery is incalculable; and yet the friends of that patient hesitate when told that such a patient ought to remain under treatment for a year in order that a complete cure, with no fear of a relapse, may be made. It is not alone being kept away from alcohol, as many seem to think, that cures alcoholic inebriety. From an experience of many years in treating diseases of the mind and nervous system, we know of no disease that requires more careful study of each individual case and more systematic treatment than does alcoholic in-

briety. We can get good cures that will be permanent by this method, and by no other.

The lost will power has to be restored, and the uncontrollable craving for alcohol cured ; and this means building up the centric nervous system from its very foundation. We have a nutritional disturbance of the nerve cells of the whole central nervous system, and the brain and nervous system have to be brought up to their highest resisting point, and the physical system, which has become undermined and shattered, has to be restored to the normal before the patient is cured. This takes time, more time than most of our patients wish to give. These patients soon die if left at home and not cured, and many go to the insane asylum, all of which might have been avoided if the disease had been treated properly in its curable stages. There are some inebriates who do not wish to be cured. This class of cases it is very difficult to deal with, but in any case that desires a cure, we assert positively that a permanent cure is possible, and can be obtained nine times out of ten, if the patient will place himself or herself, or be placed by friends, under treatment for a period varying from six months to a year, according to the severity of the case.

The following cases illustrate what can be accomplished :

M—, aged 30 years, had inherited a delicate and sensitive nervous system from his mother. When at college he led his class, and was a brilliant writer and talker. His uncontrollable alcoholic appetite had originated in moderate indulgence, and what was at first a moderate healthy desire soon developed into an increased, inordinate demand for alcoholic stimulants whenever he was tired or at all depressed. When the craving appeared, which it did about once a month, he would leave his business, no matter how imperative his engagements were, and drink for ten days or a fortnight, and then bitterly regret his course and make many good resolutions for the future, which of course he could not keep, as the next paroxysm would, as before, result in a course of intoxication, lasting for about the same length of time.

Upon his admission he was suffering from great nervous agitation and insomnia, but expressed a desire to be cured. He was put to bed under the care of a trained nurse, given at frequent intervals Valentine's meat juice, as he had not eaten or slept for several nights, and milk and lactated food in hot water. Prolonged warm baths with cold to the head to quiet the nervous system were given ; and to promote sleep and further contribute to the soothing effects of the warm baths, one-sixtieth grain of hyoscin hydrobromate was given hypodermically. This course of treatment was kept up for a few days, and then, after the digestive system returned to its normal condition, the patient was allowed full diet, and centric galvanization and general faradization

were employed to invigorate and build up the nervous system. Plenty of malt and hypophosphites were given, and iron, quinine, arsenic, and strychnia were given in combination as a tonic. Plenty of out-door exercise with an attendant was prescribed; but the patient was not allowed to visit any place where liquor was sold. The patient co-operated with us in our endeavor for his cure, and at the end of eight months was discharged permanently cured, with no craving for alcohol and with the brain and nervous system in normal condition. We see the patient frequently, and there has never been any return of the craving for alcohol.

Case II.—General ——— had, by exposure and hardship during the late war, fallen into a condition of neurasthenia, which had induced him to seek for the relief obtained transiently from stimulants. An uncontrollable appetite for alcohol was soon developed, which this accomplished gentleman in vain fought against. He applied for admission voluntarily, asking not to be discharged until cured, saying that he felt the necessity for restraint. His digestive powers were enfeebled, his appetite was gone, his muscular system was enfeebled, and the general nutrition disordered. He was placed with a good nurse under the most favorable hygienic influences; cheerful, pleasant, and tranquil surroundings were provided for him, plenty of good nourishing food administered, and an abundance of fresh air and exercise. Electricity, as centric galvanization and faradization, was daily administered. A tonic of iron, arsenic, and strychnia given, and the disordered state of the brain and nervous system removed by quiet and rest and appropriate medication. A perfect cure was the result in seven months, and this gentleman returned to his position, which he has ever since occupied with dignity and honor. An early death or insanity seemed inevitable at one period of this disease, and would undoubtedly have ensued if he had not placed himself under remedial restraint, as unaided he could never have conquered his craving for alcohol.

Case III.—A young married lady, aged 34, was admitted upon request of her husband. She was drinking heavily, eating and sleeping very little, and could give no coherent account of herself. She was put under the care of a trained nurse, who was directed to put her to bed, and a hypodermic of one-sixtieth grain of hydrobromate of hyoscin given to quiet her intense restlessness and induce sleep. She slept six hours, and upon awaking was given Valentine's meat juice every hour, with lactated food in hot water. She retained this and passed a fairly comfortable day. At night two tablespoonfuls of the following were given:

℞ Tr. opii deod.,				
Ext. hyoscy. fld.,	-	-	āā	3 i,
Chloral hydrat,				
Pot. bromid.,	-	-	āā	3 i,
Tr. capsici, -	-	-	-	3 ss,
Tr. aconit. rad., -	-	-	-	℥v,
Aq. menth. pip.,	-	q. s.	ad. fl.	℥iv.

Misce.

This produced quiet sleep of a refreshing nature, and was repeated for three consecutive nights, the diet in the daytime being restricted to Valentine's meat juice, milk, and lactated food. As the insomnia and nervous agitation disappeared, with warm baths and sedatives, and the digestive system became normal, the patient was allowed to get out of bed and was put on full diet and electricity and tonics. Plenty of outdoor exercise was insisted upon, the patient however never being allowed to go out alone.

The lost will-power was gradually restored, the enfeebled and broken-down system strengthened and invigorated, the brain and nervous system brought up to the highest resisting point, and the patient discharged cured at the expiration of nine months. She has never since that time, two years ago, had any craving for alcohol, is an affectionate wife and an excellent housekeeper, and a permanent cure has evidently resulted. Many more cases could be recorded, where brilliant men and women have been restored to their homes and to society, permanently cured.

The Morphine Habit.—The addiction to the morphine habit is generally the result of some illness, during which, to alleviate pain, it has been found necessary to administer morphia for a length of time. A certain number of persons who are neuropathically endowed find it simply impossible to drop the morphine, but continue it, not so much for the pleasant sensations produced by it, as because they suffer terribly when without their customary allowance. A professional man addicted to morphine cannot do his work without it; a society woman addicted to its use cannot entertain without it; an operator on Wall Street cannot buy and sell stocks or trust his judgment while deprived of his stimulus. The morphine habit exists when the patient feels the irresistible need of taking morphia. Patients become addicted to it because it allays not only physical pain but also mental suffering, and many patients take it to cause their troubles to disappear and to obtain a calm filled with pleasure. The morphine habitue takes the drug hypodermically for the instant sense of relief he experiences and for the rapid and ineffable solace obtained. Patients also seem to feel a pleasure in making the punctures, and use generally concentrated solutions which

are painless. Patients describe a sense of satisfaction and felicity as the first effect of the injection, which does not produce sleep, but an awakening of the mind. Many cases we have treated in eminent men who have taken it to quicken the mental faculties, although nothing betrayed, except to a professional eye, the hidden vice to which they were addicted. The man or woman addicted to the morphine habit soon gets to that point where the will is paralyzed and their personal consciousness benumbed. They have not enough energy to throw off this torpor, to break from their habit and take hold again of their duties. The intellectual faculties, except in rare cases, do not seem to be seriously affected; they are rather excited than weakened. There is, however, a remarkable weakening and derangement of the moral sense caused by the morphine habit. Insanity is very rare unless the patient be suddenly deprived of his morphia. Vertigo and insomnia are common. There is anæsthesia; the reflex actions are weakened; there is constipation, and abstinence brings in a diarrhœa; the pulse is intermittent; the heart's action is weakened; there is dyspnœa, with hoarseness, especially when the patient is trying to abstain; the eyes lose their brightness; the patient becomes prematurely old; the face is sometimes an expressionless mask, and the skin takes on an earthy tint. The patient, if not cured, gradually falls into a decline and dies. In a typical case of morphine habit, if the patient is deprived of morphine, the strength leaves him, the mind becomes a blank, and the patient suffers agonies. Give a large hypodermic injection, and almost in an instant the patient is an entirely different being, and for the time being is completely rejuvenated. All serious work is impossible to a case of morphine inebriety deprived of his stimulus; and, if abstinence is kept up, a violent frenzy is developed and collapse. The great diagnostic point attending this disease is the strange expression of the physiognomy, the wan complexion, the sunken eyes, the vacant look, and general appearance of dullness and listlessness. There is a marked lowering of the physical and moral tone. There are also some cases who retain an appearance of health, who enjoy an excellent appetite, and who physically and mentally defy detection until they voluntarily acknowledge their hidden vice. It is an invariable rule with a case of morphine inebriety that work is not possible except under the influence of morphine. The morphine habituate almost always increases his dose to get the intoxicative repose and comfort he wants, and this steady increase of poison injected means, of course, a progressive cachexia, both moral and physical. There are two classes of morphine inebriates, as there of alcoholic inebriates—the one incurable, because they have no desire to break loose from the habit; and another, curable, because they sincerely desire to be cured. Relapses are somewhat frequent,

from the fact that when a cured patient is subjected to some painful disease he is tempted to recommence the practice for the instant relief he knows he can get, and even one injection may precipitate all the former troubles upon him. A perfect cure, with no relapse, is very frequently obtained.

In the treatment of the morphine habit, we regard abrupt suppression as absurd and barbarous, and by it we run the risk of producing serious results. Gradual suppression and reduction is the only sensible treatment, we think, and even this is not possible generally in the patient's own house, for he will surely cheat his physician and obtain morphine in excess of that prescribed. The nerve tone has to be improved, sedatives are indicated, the insomnia has to be controlled, and the whole physical and moral tone brought up to the normal standard. Our plan of treatment consists of the bromides at first, followed by iron, strychnine, electricity, hot baths, and mental quietude and an atmosphere of tranquility. The strictest surveillance is practiced for the first three weeks, and we use all the means which science furnishes to cure the disease, and we regard it as very curable. The following case illustrates the general plan of treatment.

Dr. ———, an excellent surgeon, was admitted at his own request to be treated for the morphine habit. He had suffered from a severe illness, during which he had been given, hypodermically, considerable morphia for several weeks. Finding that he could not stop the morphine injections and do any work, he endeavored to decrease the dose, but was utterly unable to stop it, and finally commenced increasing it, until at the time he was admitted he was taking ten grains per day hypodermically. He expressed the most earnest desire to be cured, and get back to his practice. The plan of treatment was as follows: We commenced with fifty grains of bromide of sodium administered at ten and four o'clock in a glass of water, gradually decreasing the morphine and increasing the bromide until, on the ninth day after admission, the patient was taking no morphine. Warburg's tincture, in one drachm doses, was given daily before breakfast, and tr. gentian and tr. chloride of iron in an elixir before each meal. Insomnia, which is always present in these cases, was combatted by the hydrobromate of hyoscin in one-sixtieth grain doses. After the complete withdrawal of the morphia, during which the patient hardly suffered at all, hot baths and sweet spirits of nitre were given to eliminate the bromides. Then the patient was given electricity and a tonic containing iron, strychnine, and digitalis. Sulphate of sparteine and nitro-glycerine, also tr. capsicum and ol. cajuput, were used *pro re nata* after complete withdrawal of morphine. The electricity was administered as general faradization, the negative pole being applied at the lower part of the spine,

while the positive was applied on the cranial centre, on the cervical sympathetic, and on each side of the sixth and seventh cervical vertebræ. A milk diet, with Valentine's meat juice, was prescribed for the two days following the complete withdrawal of the morphine, to prevent the diarrhœa which is apt to appear at this time. At the end of the fourth week the patient had gained twenty pounds of flesh and was in excellent condition. He was requested to remain one week more for observation, and then was discharged perfectly cured, and having experienced little or no suffering during treatment.

The history of this case is the history of scores of cases of morphine inebriety which we might transfer from our case-book to this paper; but it is needless, as we treat all cases of morphine habit alike, and, with very few exceptions, with the same gratifying result. We can certainly show ninety per cent. of cures during the past few years, in cases that were admitted desiring a cure. The only exception to the above plan of treatment is where the patient is very weak upon admission, when we adopt a preliminary plan of treatment for one week to build up the patient before cutting off any morphine. We know of but two cases that have relapsed during the past five years, and they both came back promptly for another course of treatment. In each of these, they had suffered from illness, where the family physician had thought it wise to administer morphine hypodermically, and this had resulted in a renewal of the use of the drug. All the other cases have remained cured, as far as we have been able to trace them.

128 PARK PLACE, BROOKLYN,
Near Prospect Park.

A CASE OF MULTILOCULAR DERMOID CYST.—SUPPUR- ATION; OPERATION; DEATH.

BY C. N. COX, M.D.

Read before the Medical Society of the County of Kings, March 20, 1888.

November 30th, 1886, I was called to see Mrs. W—, age 27, U. S. She was expecting to be confined very soon, and complained of pain in the side which prevented her from sleeping.

I elicited the following history: Married six or seven years; no children. Family history good. Had miscarried twice; each time at an early period of gestation. After each abortion considerable peritonitis and pelvic cellulitis. General health had always been fair.

Three months previous she came near aborting present fœtus (which was now at about six months and three weeks).

Upon examination, I found abdomen greatly distended; fœtal heart-sounds indistinct; feet and hands slightly œdematous; a trace of albumen in the urine; appetite good; bowels somewhat constipated; complained of inability to sleep at night, as above stated, due, no doubt, to extreme distension.

Sulphate of morphia and chloral were ordered, to be taken at bedtime; and pulv. glycr. co. was given for the constipation.

December 3d, three days afterward, thinking she was in labor, she sent for me again. She said there was a "gush of waters" about one hour before. I found the os uteri somewhat dilated, and during a pain, which was of short duration, there was slight bulging of intra-uterine contents. Patient directed to keep quiet and send for me if pains became more pronounced. Pains became weaker and finally ceased until the 6th. At about 6.30 P. M. of that day, after a tedious but normal labor, she was delivered of twins. The children were very small and feeble, one dying immediately and the other only living a few hours.

The placenta was rather small and seemed to have taken on fatty degeneration.

Immediately after labor, patient began to have abdominal pain and tenderness, with swelling.

Pulse kept about 100, temperature 100° – 101° . Nausea, vomiting, constipation. Inside of twenty-four hours there was quite extensive peritonitis. Hot flaxseed poultices were applied. Calomel and opium given internally.

At about the end of one week, the lochia, which before had been normal, ceased; temperature 102° . There was no particular tenderness over the uterus, although every other part of the abdomen was so tender as scarcely to admit being touched. Considerable pelvic cellulitis was noted upon examination per vaginam.

At this time, I gave an intra-uterine injection of carbolic acid, 1–50. Four hours after, patient had a chill lasting about one hour; temperature reduced to 101° . The lochia never returned.

Peritonitis was of several weeks duration, after which temperature went down to normal, and patient sat up and began to improve.

Some time after tympanitis and tenderness from peritonitis had disappeared, I noticed, upon inspection, a tumefaction on right side of abdomen. Upon palpation and percussion, it was found to be about size of a closed fist, the centre of which was about opposite umbilicus. It had a rather doughy feel—not very tender.

Dr. Z. T. Emery saw the case with me a day or two after. He

thought, with me, that it might be an accumulation of fecal matter, since the bowels had been very constipated since confinement.

Laxatives, to a small extent, and copious enemata were tried for a few days; but they failed to make any impression on the tumor, though it remained quiescent for some time.

January 28th, 1887.—Commenced quite suddenly to be tender and painful. No chill; temperature normal. No evidence of fluctuation.

January 30th.—Temperature 101° .

January 31st.—1.30 P. M., temperature 102° ; 7.30 P. M., 100° . Pulse frequent and feeble. Treatment supporting.

February 1st.—Temperature, at 8.30 A. M., 99° , and gradually rose to 102° at 10 P. M. Pain, dizziness, and slight delirium were present.

February 2d.—Heart's action slightly improved, as was also general condition of patient. Temperature at 7.30 A. M. was 98° ; at 12.15 P. M., 100° ; and at this time fluctuation was discovered. About 9 P. M., with kind assistance of Dr. Emery, I aspirated, employing a medium-sized needle. Greenish, flocculent pus, having an extremely offensive odor, commenced immediately to flow; but after about two ounces had been drawn out, it ceased to flow, nor could any more be obtained by shifting the point of aspirating needle in every direction. Upon withdrawal of needle, its eye was found to be stopped up with fine hairs.

The withdrawal of this small amount of pus relieved the tension very much. During the afternoon the patient had developed the "new mown hay" breath. Temperature at 10 P. M., 99° .

February 3d.—It was decided to make an abdominal section if the patient should rally a little so as to bear the operation. At 7.45 A. M., temperature 99° ; 4 P. M., $100\frac{1}{5}^{\circ}$; 9.15 P. M., 102° . Heart's action very weak; dicrotic pulse. Delirium; no pain.

February 4th.—7.45 A. M., temperature $100\frac{4}{5}^{\circ}$. At 10.30 A. M., found general condition of patient better; heart's action stronger; temperature $101\frac{4}{5}^{\circ}$. Dr. Geo. R. Fowler and Dr. Emery were summoned. They saw the case with me at 2.30 P. M. Patient's condition about same as in the morning. Temperature 103° .

We agreed that the only possible thing to save the patient's life was abdominal section, to reach and remove the pus which she was every moment absorbing; that, as it was, she could hardly live twelve hours longer; and that, slim as the chances were of saving her, it would at least not hasten the end.

About 3.30 P. M., operation was commenced by Dr. Fowler, assisted by Dr. Emery and myself.

As there was considerable likelihood that patient could not bear ether well, hydrochlorate of cocaine was used over field of operation,

by subcutaneous injection. As it seemed probable that adhesive inflammation had closed the peritoneal sac, section was made immediately over the tumor; incision about $4\frac{1}{2}$ inches long. When peritoneum was reached, it was found that the two layers were adherent, and parietal layer adherent to parieties. Before opening peritoneum, whole wound was coated with pure carbolic acid. As soon as it was laid open, the contents welled out. The sac was filled with about two quarts of pus and cheesy matter full of fine hairs. This latter had to be scooped out with the hand.

When the hand was in the sac, little pockets could be felt, which gave one the impression that they were daughter cysts which had broken down into the main or mother cyst. There seemed to be a few which had not broken down, through the walls of which could be felt calcareous-like masses.

After evacuating contents of cyst, it was thoroughly washed out with solution bichloride of mercury, 1-2000.

Although patient had, thus far, stood operation very well, she now showed marked signs of shock, and it became necessary, in order to avoid risk of death under operation, to bring the latter to a close as quick as possible. A large drainage tube was introduced; paper dressing packed around and over wound; and over all a broad binder. Hot water bags were put to the feet; patient covered up warmly and plenty of brandy and peptonized beef ordered.

Cocaine hydrochlorate \mathfrak{M} x, of five per cent. solution and \mathfrak{M} x of twenty per cent. solution were given. In about two minutes after first injection, patient became very much exhilarated and loquacious.

The operation was practically painless. Temperature at 6 P. M. 103° .

Reaction seemed to take place fairly well after operation; but about ten o'clock patient began to sink, as was manifested by a struggling intermittent pulse, low, muttering delirium, etc. Temperature at 11 P. M. 102° . Death took place next morning about 7 o'clock.

An autopsy, much to my regret and disappointment, was not allowed by the family; but exploration during operation conveyed the idea that the cyst sprang from right ovary.

OBSERVATIONS.

1. Long time after *apparent* rupture of membranes before birth,—I say *apparent*; for the patient may have been mistaken. But the os was somewhat dilated, and I expected active labor to take place at any moment. This was in the morning of December 3d. Active labor did not take place until the 6th—three days later—the pains in the meantime having completely died away.

2. Did cyst of this size exist at time of labor? If so, why was it not felt during palpation in expressing placenta, etc.?

Of course, I was not looking for anything of this sort; but it seems plausible to my mind that in palpation of uterus a tumor of this size in such close proximity, would be accidentally discovered. Consequently, if it existed at this time, it must have been very small.

3. Ought the tumor to have been discovered while tenderness and swelling of peritonitis existed? The tenderness was so great that the abdomen could scarcely be touched; therefore, since the existence of a tumor was not suspected, a searching and painful examination over the angry peritoneum was not to be thought of.

4. If the tumor had been diagnosed as soon as it was discovered, and an immediate operation for removal been undertaken, what would have been the chances of recovery? I can only say that, in my opinion, the chances in *this* case would not have been bettered, owing to the bad condition of patient, and extensive adhesions which latter would have added much to the gravity of the operation for thorough removal.

DISCUSSION.

Dr. FOWLER.—Dr. COX has given such an excellent *résumé* of the case that I do not know that I can add anything. My recollection is that at the time I believed this congenital dermoid cyst to have arisen from the right ovary. The patient had passed through an exceedingly severe attack of peritonitis, and it seems to me that probably the inflammation and suppuration within the sac had been set up by the peritoneal inflammation surrounding the same. The question of the existence of a cyst of this kind at the time of examination and delivery is one well worth considering. It does seem to me that it could have escaped notice had it been the size it proved to be on incision, and therefore but one thing remains to consider, and that is the method of enlargement of the cyst during the active inflammatory condition in the peritoneal cavity. It seems to me quite improbable that the increased amount of fluid was due entirely to the inflammatory condition of the interior of the cyst itself. The matter which welled out consisted largely of masses of flakey lymph and pus, together with several masses of hair, which are commonly found in cysts of this nature. I should therefore believe that the changes the interior of the cyst underwent, coincident with the peritonitis, were really the cause of the enlargement of the cyst at that time. These cysts may, and frequently do, escape observation, and they are often found post-mortem when their existence is not known or suspected during life. I therefore think that there can be no question but that this enlargement was due to the coincident inflammatory conditions.

We often find the same thing occurring in par ovarian cysts and cysts of the broad ligament. I remember a cyst of the latter, which developed in the same way. I had been treating the case for a long time for a badly retroflexed uterus, and in treating this, peritonitis set in, and a cyst of the broad ligament developed. Dr. Jewett assisted me in emptying it through the vagina, and did not refill.

Dr. CHAS. JEWETT.—My opinion, Mr. President, corresponds with that of Dr. Fowler to the effect that the cyst must have been larger at the time of the operation than at the time of labor. A cyst so large as that described would probably have been discovered, not necessarily a small one. The facility for exploring the abdominal cavity by external palpation is very great at the close of labor. I am not quite clear as to the cause of death—whether the patient died from a still lingering peritonitis or from other cause.

Dr. BUCKMASTER.—Was the fluid which was removed from the cyst examined by the microscope?

Dr. COX.—I believe it was, but we did not find anything diagnostic.

Dr. BUCKMASTER.—From the gross appearance of the character of the ordinary dermoid cyst it might be impossible to state whether the fluid was pus or not, because it is composed of the secretion of sebaceous glands, exfoliated epithelium, etc., and often closely resembles pus. In regard to the development of the cyst I should think it very unlikely that a dermoid cyst should have increased in so short a time, for they are the slowest of all cysts in their growth, and the amount of hair found within it I think would preclude this idea.

This subject opens up the broad question, and it is an interesting one, that of the propriety of tapping abdominal tumors of different varieties. It seems to me that the degeneration occurring in the cyst might have been the result of the tapping, quite as probable as from the surrounding inflammation, and if the inflammation was very intense about the cyst, I think the chances of its sudden increase in size would be very small. As ascites is quite frequently found with this variety, it is not improbable that the contents often proves very irritating. I think any one might have overlooked the cyst.

Dr. COX.—I was not looking for anything at the time of labor, but my palpation was very thorough. I used Credé's method in getting rid of the placenta, to such a degree that I could feel the spinal column. I do not see how a tumor of that size could have escaped my observation.

THREE CASES OF DOUBLE PNEUMONIA OCCURRING
SIMULTANEOUSLY IN ONE FAMILY.

BY A. ROSS MATHESON, M.D.

Read before the Medical Society of the County of Kings, March 20, 1888.

Carroll D—, age 8 years; Rodger D—, age 6 years; and Clarence D—, age $3\frac{1}{2}$ years, robust children, of healthy parents, were each attacked during the night of February 25th, 1888, with symptoms affecting the respiratory organs, and attended with a high temperature.

A physician in the neighborhood was called on the morning of the 26th, and prescribed antipyretic and expectorant remedies. I was called on the 27th, and saw them about 9 P. M. The appearance of the children was remarkable from the close resemblance of their symptoms.

The skin was dry, hot, and inclined to duskiness or lividity. The physical signs in each case were moderate dullness on both sides with coarse mucous rales.

The youngest and the second have passed through the usual course of a severe acute lobar pneumonia and are now convalescing.

The eldest continued to grow worse, temperature reaching 106° on March 1st (after that date did not disturb him to take temperature), dyspnœa was so great that he could not lie down, and added to this a hacking cough that was almost continuous, causing loss of sleep, restlessness, and intense distress, that was finally relieved by death on the 4th of March.

Autopsy eighteen hours after death by Dr. R. M. Mead; present, Dr. William Maddren and myself.

Right lung completely solidified without any aerated portions. The anterior portions of the pleura on the right side gave evidence of an intense inflammation while the posterior portion was but slightly affected. The right pleural cavity contained a large quantity of turbid serum mixed with fibrine and pus.

The left lung was much larger than the right. Its appearance was peculiar, dark, red, swollen, inelastic, and as if partially boiled, portions were hepatized and portions aerated, but the general appearance was unlike lobular pneumonia. The left pleura contained several ounces of serum. The pericardium was covered with a thick coating of fibrine, and when this exudation was peeled off, it exposed a gray granular surface.

The pericardium contained a large quantity of pus and serum.

The heart, kidneys and liver were normal.

My purpose in presenting these brief notes is to elicit information from the large experience of the members present, that might possibly point out the probable origin of the malady.

The three brothers, while enjoying good health, were attacked with the disease about the same time, on the night of February 25th, 1888. Each had bilateral trouble, which is unusual in the beginning of pneumonia, due to exposure to atmospheric causes.

The malaria or sewer-gas origin must be excluded, on account of the disease attacking the three children simultaneously; there would be a difference in the period of development; besides, the plumbing in the house was in good order, and separated from the living apartments by a hall.

The contagious or infectious origin would also exhibit a difference in the period of incubation in three individuals. There was no indication of diphtheritic or any other zymotic influence.

The only cause that to me seemed probable was an old sheet-iron stove that allowed the gas to escape in large quantities, which, being inhaled, acted as a direct irritant.

DISCUSSION.

Dr. JEWETT.—I would like to ask if Dr. Childs is present; he has had some experience similar to that related in the paper. (Dr. Childs was not present.)

I may say in explanation, without discourtesy to him, that within a few days he related a case in which he was called to treat a pneumonia patient in a family of several persons living in one room. Before he got through with that case, he had three with lobar and one with broncho-pneumonia in the same family.

A somewhat similar experience once occurred in my own practice. An elderly woman from Canada, who had come to New York for the purpose of "doing the city," fell sick, after a few days, with pneumonia. Her daughter was sent for to assist in the nursing. Three days after her arrival she lay down beside the mother with pneumonia of the same lung and the same lobe. Both recovered.

Dr. THAYER.—I am very much interested in these cases, not because I have any experience of my own to relate, but because I have received a report, from some parts of New York and from a town in Massachusetts, of the concurrence of pneumonia and diphtheria. Dr. Matheson said there was no evidence of diphtheria in his cases. In many cases, in two or three towns in New York, there was a direct and evident relation between the two. Diphtheria of the throat occurred simultaneously with pneumonia, and a number of persons in the same

family were affected, one after another. It is therefore a matter of very great interest to us, whenever we meet with several cases of pneumonia in the same family, to investigate as to the possibility of its being of a diphtheritic character.

As to its being the result of coal gas, that does not agree with the ordinary experience of the effect of coal gas, even in fatal cases. Taylor, in his Medical Jurisprudence, and other authors on the subject, have given various results; but, as far as I can recollect, pneumonia has never been one of them. There has been congestion of the lungs, of the right cavities of the heart, and meninges of the brain; but I do not think there has been any pneumonia. As I have no personal experience to give as to the relation of diphtheria and pneumonia, I simply wish to call the attention of the Society to the subject, as possibly some of the members may have seen the occurrence of the two diseases.

Dr. MATHESON.—I examined very carefully the bronchial tubes and the lungs for diphtheritic exudations, and there were none. The heart was normal.

Dr. VAN COTT.—I would like to ask how far the lungs were involved; also the condition of the endocardium, and whether the kidneys were examined in this case.

Dr. MATHESON.—The endocardium was not affected; the pericardium was covered with a thick coating of fibrine and contained several ounces of serum and pus; the kidneys were normal.

Dr. MINARD.—I have for some time been under the impression that pneumonia might be contagious. In listening to Dr. McCorkle the other day in one of his classes, he suggested that perhaps it might be. I had a case at that time, and I have had one since. They were trained nurses, and had been nursing cases of pneumonia, and they were both taken down with the disease. One of the nurses and one of the patients died. I am taking notes of cases, with a view to establish some statistics in regard to facts.

Dr. THAYER.—Mr. President, I think there is no question in any mind as to the very serious deteriorating influence of coal gas in the atmosphere, but the symptoms are never those of pneumonia. They are of the nervous system, convulsions, and coma; but if the cause is not continued too long, there is prompt recovery. There is no doubt that an atmosphere that has in it any amount of coal gas, which is constantly respired, retards convalescence in any case.

Dr. MADDREN.—I saw these children, with Dr. Matheson, a day or two before the boy died; the symptoms then suggested what might be termed a septic bronchitis, as well as pneumonia. In each of the children the affection was bilateral and extensive, the râles subcrepi-

tant rather than crepitant, except in some regions where they were distinctly crepitant.

At the autopsy, all below the diaphragm seemed to be healthy; the amount of disease above the diaphragm was extensive. The amount of pus in the right pleural cavity, the whole of the right lung was completely hepatized; there was some pus and lymph in the left pleural cavity, at base of lung, and around the pericardium; the pericardium contained from four to eight ounces of purulent fluid; the heart was thickly coated with a purulent lymph that wiped or peeled off readily, leaving the heart tissue natural in appearance. There was no valvular disease, no evidence of endocardial inflammation, which I think is not the rule where pericardial disease is extensive.

The appearance of the bronchial tubes, and the whole of the symptoms, I think, would exclude diphtheritic poison, especially when we take into account the fact that two of the children are convalescing nicely without the sequelæ of diphtheria. All three came down at one time, and it looked as though they were subjected to a similar cause, that cause some irritation or poisoning of the air passages. It might be coal gas; if not the sulphurous or carbonic acid or oxide principle, some other and perhaps an unusual and specially irritating one.

Dr. MATHESON.—I had the sheet-iron stove replaced by a cast-iron stove the day after taking charge of the cases.

ON CANCER.

BY LOUIS EDWARD TIESTE, M.D.,

Pathologist to St. Mary's General Hospital.

Read before the Brooklyn Pathological Society, March 22, 1888.

Goethe says—Man was not born to solve the riddle of life, but he must nevertheless attempt it, in order that he may learn how to keep within the limits of the knowable.

The word "cancer" is popularly applied to a group of diseases whose most prominent common characteristic is their malignancy; that is to say, their resistance to all known medicinal agents; their proneness to invade other organs and tissues of the body; their liability to recur after removal; the pain to which they generally give rise, and the peculiar loathsomeness which attends the progress of many forms, and finally their tendency to destroy life.

The degree of malignancy varies greatly. 1st. According to the variety of cancer. 2d. To the age, constitution, and, in a measure

perhaps, to the habits of the patient; the first being probably the most important factor.

We meet with many anomalies and irregularities, of course, of symptoms and of progress: as when an ordinarily slow growing form in certain sites proves rapidly fatal; or when a variety almost always speedily fatal remains stationary in some individual cases for many years. Epithelioma of the tongue may be cited as an instance of the first; those cases described by Sir James Paget and others of what was then called encephaloid cancer, but would now be termed round-celled sarcoma, of the second. The long duration of rectal epithelioma before it proves fatal; the varying degrees of malignancy shown by ordinary scirrhus of the breast; and the reluctance of sarcoma to invade neighboring lymphatic glands, also strike us as deviations from the rule.

Yet these very exceptions combine with clinical experience to show that however much malignant diseases may differ in their microscopical anatomy, yet they follow more or less closely the same general laws.

And I imagine that we gain more correct views as to the prognosis and treatment by provisionally considering all these maladies as one essential entity than by too great regard to the distinctions of the microscope. Not that the vast importance of these distinctions are for a single moment to be lost sight of from a pathological point of view, but clinically they serve mainly as a basis for theory, and their practical significance is a vision of the future.

The old time "cancer cell," with its roundish shape, large excentric nucleus, pale outline and granular contents, found in alveolar carcinoma, was once regarded as the type and most pathognomonic microscopic indication of malignancy, a view which cannot be sustained in the light of more recent researches. Yet it seems to be now unduly discredited, its pathological importance and diagnostic value as much underrated at the present time, as formerly it was improperly magnified.

We are, however, entitled to say that although cells exactly similar in outward appearance are found normally in certain situations within the body, yet when they are a prominent and prevailing feature in any tumor, such a growth is unmistakably malignant. Let us now consider the influences most prevalent and important in the origination of cancer.

First. In the case of epithelial cancer there does not seem to be any predisposing cause except lowered healing and recuperative power from advancing age; and the existence of growths or lesions, such as warts, syphilitic or other ulcers, broken and decayed teeth, which may render a part prone to irritation by external agencies.

The excitant cause is always some mechanical irritant.

On the lip small fissures are continually rubbed against the teeth, or by the contact of a pipe stem, if the person is in the habit of smoking a pipe; or the little crack at the angle of the mouth or on the lip may be prevented from healing by the natural motions of the parts.

The comparative immunity of women from epithelioma in this situation is readily explained by their greater regard to personal appearance, which would naturally induce attention to an unsightly disfigurement; and by their non-indulgence in smoking and chewing picks.

The same factors produce epithelioma of the tongue; syphilitic ulcers, gummata and warts are common forerunners of, and, if neglected, are almost sure to result in malignant disease.

On the genital organs or skin some papillomatous growths invariably precede; and being irritated by picking, natural moisture, heat and motions of the parts, develop into cancer.

The peculiar effect of soot in the development of epithelioma is remarkable; the scrotal affections which chimney-sweeps were wont to suffer from is explained on mechanical grounds, and cases now and then occur which show that the skin is peculiarly susceptible to the malignant influence of this irritant.

From what we see in external parts, we are bound to infer that a similar process takes place in the respiratory, intestinal and generative mucous membranes.

In the intestinal organ some narrowing of the calibre, inflammatory or otherwise, precedes, and in time produces a fissure, which from its situation cannot heal; or the passage of solid bodies, or hard fæces may scratch the mucous surface, ending in chronic ulceration and finally malignant disease.

In laryngeal and rectal epithelioma a papillomatous growth is a common forerunner. Generally speaking, all that is wanted for the production of epithelioma appears to be continuous exposure of the subcutaneous or submucous connective tissue to the intrusion of epidermic or epithelial cells.

Turning now to alveolar cancer, we find in a small proportion of cases a single injury as the immediate forerunner.

This is most noticeable in cancer of the breast, that organ being particularly exposed to contusions.

Thus of 382 cases so affected, 56 gave a history of injury, and 14 were doubtful on that point.

I think when we consider the influence of preconceived ideas, the dread which all women feel of a blow on the breast, and the universal disposition to account for the appearance of a cancer by some such reason, we may fairly doubt the correctness of the figures given above.

In the great majority of instances, at any rate, the causation cannot be explained by mechanical means.

We find that among 276 cases quoted by Sir James Paget, 122 occurred between the ages of forty and fifty; and in another set of 158 cases, 73 occurred during the same decade. After fifty-three there is a greatly diminished frequency.

On the other hand, with epithelioma, the same authority finds a progressive increase at every decade up to seventy.

An idea widely prevails that scirrhus is a process of degeneration, and is as much a result of senility as wrinkles and gray hair. The figures given above controvert such a view; were it correct, we should have as progressive an increase of scirrhus with each successive decade as with epithelioma; instead of this increase, however, we have a steady decrease. We all know that in advanced life scirrhus runs a very chronic and often atrophic course; is slow to infect glands; is less prone to recur after extirpation, and takes a far longer time to do so.

On the other hand, we find scirrhus run its most rapid course in the young, and those whose vital processes are most active.

The idea of heredity as a factor in the production of malignant disease is firmly rooted in the public, and to a great extent in the professional mind; it is stated in the text-books as an unquestioned fact and is sanctioned by many of our best authorities, among whom is Sir James Paget. One seldom meets a cancerous patient who has not been interrogated on this point by every doctor whom he or she may have consulted.

So far as regards the patient, the consequences of such a deep-rooted belief are twofold. 1st. If there be no family history of cancer the insidious malady is neglected, in confidence of security, until too late.

2d. If any relative happen to have suffered in this way, the mental attitude of expectancy and anxiety thus occasioned prove a very sword of Damocles, banish all peace from the mind, and are powerful agents in bringing on the dreaded disease.

Dr. Fordyce Barker, in his recent address on the opening of the New York Cancer Hospital, said: "The belief has been almost universal, both with the profession and the public, until within a comparatively recent period, that cancer has generally a hereditary origin. It is probable that no doctrine in regard to the cause of the disease has given rise to so much and so causeless misery and unhappiness in the world as this. In those who have some symptoms which they suspect to indicate the beginning of this disease, suspicion becomes a conviction if any relative of a former generation has died of cancer. They may almost be said to begin the pangs of a moral death long before it

is demonstrable that physical death is inevitable from this cause. If the patient has any family history of this disease, and is suffering from any acute or chronic affection, attended with symptoms which he has heard exist in cancer, the effect of this conviction is not only most depressing, but dangerously complicates conditions which otherwise might result in recovery. I have personally known illustrations of the truth of these last assertions."

Again, quoting from Dr. Barker, "I have more than once been asked, in those pathetic tones which tell of heart-breaking anxiety, 'Are my children doomed to suffer as I now do?' The answer, given in no equivocal words, is, the probability of such a doom for any descendent of yours is extremely small. In all the statistics which I have been able to collect, where antecedent family history seemed to be trustworthy, I have found the proportion of those who have had cancer, in whom some relative of a former generation is reported to have had some form of malignant disease, to be only 13.65 per cent.

On the other hand, in regard to one family which has in the present generation the largest number of victims I have ever personally known, I have authoritative proof for asserting that no development of any form of malignant disease has ever existed in three previous generations, including collateral branches."

Now as regards the medical man, if he always looks for traces of heredity and relies on their presence, he will be very prone to fall into errors of diagnosis, whose consequences to the unfortunate patient, to say nothing of his own reputation, cannot be overestimated.

Of 358 cases of cancer of the breast, 54 gave some account of cancer in at least one member of their families, 7 were doubtful.

Of 268 cases of uterine cancer, 23 gave a family history, and 11 were doubtful.

Of 108 cases of epithelioma in various external sites, 4 gave a family history, 2 were doubtful.

Considering how universal is the conviction of a prevailing hereditary tendency, how naturally such would be sought for, and established on most insufficient grounds, how loose would be the recollection of most people, how imperfect their opportunities of knowing what really was the matter, we are, I think, entitled to reduce the percentage of patients with a cancerous family history very considerably. Then, among cancerous relatives, there must have been some cases of epithelioma, in which an obvious local cause of irritation can usually be found, and which, of all forms of cancer, least lends itself to the theory of heredity.

It cannot be denied, however, that occasionally we do meet with cases in which several members of a family have succumbed to malign-

nant disease; but such cases are rare, and cannot be taken to prove a law.

Finally, however satisfactory the theory of heredity may explain transmission, it in no way accounts for the primary origin of the disease. Another theory which was once generally believed in, and which may be said to have many followers even yet, is the idea of cancerous diathesis, said to be a peculiar habit or condition of the body, of which the malignant deposit is only a local manifestation. This is a fragment of the old humoral pathology, and serves to hide our ignorance of the causation of cancer.

By any one who has watched the progress of cancer in its ordinary forms; has viewed it gradually extend from a nucleus to the surrounding tissues, and along the nearest chain of lymphatics to the glands; has seen one after another of these glands enlarge; after extirpation has found the disease return in the cicatrix, skin, or neighboring lymphatic glands,—it is difficult to understand how such a theory could be held for a single moment.

Our best observers tell us that malignant disease always originates from one centre (except in those very rare cases in which two organs become affected simultaneously and independently), and that they radiate from this centre as a focus.

We have thus seen that in the great majority of cases of alveolar carcinoma there is no history of any mechanical injury which can be said to be an exciting cause. The theories of "heredity" and cancerous diathesis do not afford us a reasonable solution of the etiology of cancer. If we fail to find a history of injury, which may be admitted as one cause, another may always be found if closely sought for—this is the existence of those factors tending to produce lowered vitality.

Depression of the mind as a forerunner of cancer has been noticed by many observers, among them Sir James Paget.

To say that cancer is a disease of the nervous system, is, at first, a somewhat startling hypothesis; yet on examination it will be found not only to explain much that is obscure in many cases, but also not to be incompatible with the development of modern thought and scientific investigation.

Almost all the domains of science are being invaded more or less rapidly by the theory associated with the name of Darwin. Pathology has until recently resisted the application of the theory of evolution.

Traveling upward from the lower to the higher animals, from the ascidian to the vertebrate, we are led to regard each organ as successively developed, so determining the various species; and it is found that the stability of such organ varies inversely with the degree of specialization; that is to say, the more recently it has developed, the

more it tends to vary in different members of the same species; and the higher the perfection it has reached, the greater the proneness to disease and degeneration, or the greater the liability to be moulded by external agencies.

Now, superiority in the scale of being is determined for the most part by, and depends upon the degree of development and specialization attained by the nervous system; and this, of course, has reached its highest point of complexity in the vertebrates as compared with other animals; and in man as compared with the other vertebrates.

On the principles of evolution, then, the last developed organ, and that which has reached its highest perfectability, yields soonest to the strain. Now, we should expect to find advancing civilization characterized by an increase among diseases of the nervous system. The natural tendency to such increase is vastly enhanced by aggregation of population in large cities, by a keener struggle for existence, education, and the multiplication of artificial habits, lessened hours of sleep, improper foods, *above all by worry*. We do see a progressive increase in the frequency of insanity, and new and heretofore unnoticed forms of nervous derangement are almost daily pointed out in our large cities.

Among those people who are still able to take part in active life in our densely populated districts, we find many who are dyspeptic, brooding, nervous, easily overcome by slight troubles, prone to various debilitating agencies.

From such, granting an extra strain, we find are manufactured a large percentage of patients who suffer from carcinoma.

Considering this form of cancer as of primarily nervous origin, we can understand how it increases in frequency with advancing age up to a certain point; when that point is reached, nervous sensitiveness is blunted and a decrease sets in. We can comprehend why cancer is so chronic, or much less malignant in very advanced life. We can see why women, whose nervous systems are comparatively sensitive, are so much more frequently the subjects of cancer than men. We find an explanation of the fact established in England by Haviland that cancer is most prevalent where large towns are situated, where competition is most keen.

Quoting again from Barker's address: "There are some curious facts in regard to the geographical distribution of cancer, which science as yet does not satisfactorily explain. The last census of the U. S. demonstrates that this disease is most prevalent in some of the New England States and Pacific Coast, parts of New York, Pennsylvania, Ohio, Michigan; that it is least prevalent in the Mississippi Valley, and in the South. An examination of the reports of death from cancer in England and Wales by Dr. Haviland, showed both banks of the Tweed

near Berwick, and of the Tyne at New Castle, parts of Yorkshire and the beautiful Lake District, to be fertile beds of cancer. In London, as a whole, cancer is very frequent."

If now we examine these statistics given by Barker and Haviland, we will find that either there has been a rapid development of these regions, a struggle for the ascendancy with all of its concomitant evils, and especially worry; or the region is one where civilization has advanced, bringing its evil social factors potent in the production of diseases of the nervous system. If these statements are true, we should naturally expect to find that carcinoma is more prevalent in those persons most prone to debilitating influences, more prevalent among women than men, among married women than single.

The former comparison needs no statistics; for the latter, among 174 patients at the Cancer Hospital suffering from uterine cancer, 146 were married, 21 were widows, only 7 were single. Among 223 cases of cancer of the breast 147 were married, 38 were widows, 38 were single. Of 140 cases of cancer of breast 103 gave an account of previous mental troubles. Of 187 cases of uterine cancer, 91 cases gave a history of worry or other debilitating agency.

It cannot be claimed that the theory of the neurotic origin of alveolar carcinoma is more than provisional. We know very imperfectly how the nervous system influences nutrition and structure; but no one doubts that it does influence them, any more than he doubts its influence on the circulation.

And, in the production of cancer, nervous depression may play a most important part. What can confidently be said is that, in the absence of a mechanical cause, careful inquiry rarely fails to find a functional nervous one.

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EDITORIAL.

EDWIN NESBIT CHAPMAN, M.D.

In the death of Dr. E. N. Chapman, the medical profession of Brooklyn has lost one of its oldest and most prominent members. For more than two years he has been failing in health, and has, during that time, been unable to respond to the calls made upon him by his patients, and has been debarred from intercourse with his professional brethren, in whose society he for so many years took such pleasure. His death occurred on the 2d day of March of the present year, at his residence, 95 Pierrepont Street, its immediate cause being cerebral apoplexy.

Dr. Chapman was born at Ridgefield, Conn., February 26th, 1819. He was of English descent, one of his ancestors, Robert Chapman, an Englishman, having settled at Saybrook, Conn., in the year 1635. He was graduated at Yale College in 1842, and received his degree of M.D. from Jefferson Medical College in 1845. He at once settled in Brooklyn, of which city he was a continuous resident to the day of his death. In 1846 he married Miss Mary A. Read, of New Haven, Conn., who died in 1856. In 1865 he married Miss Maria B. Davol, of Brooklyn, who survives him.

When the Long Island College Hospital was opened as a medical school in 1860, Dr. Chapman was selected as Professor of Materia Medica and Therapeutics and Clinical Midwifery. This chair he occupied three years, when he was appointed Professor of Obstetrics and Diseases of Women and Children. In 1868 he resigned his position in the College and Hospital and confined himself to the practice of his profession.

Dr. Chapman's contributions to the literature of medicine have been many, and cover a wide field of observation. Two of these have

been published in book form. In 1872, there issued from the press of Wm. Wood & Co. his work entitled, "Hysterology: a treatise, descriptive and clinical, on the diseases and displacements of the uterus." In 1878, a second book appeared from his pen on the "Antagonism of alcohol and diphtheria," based upon his belief that "Alcohol is as antagonistic to diphtheria as belladonna to opium, or quinia to malaria." The alcoholic treatment of diphtheria will always be associated with Dr. Chapman in the memories of Brooklyn physicians, and indeed in the minds of all those who endeavor to inform themselves as to the methods which have been successfully employed in the treatment of this disease, which since 1859 has been so prevalent in this country. Of the minor published papers of Dr. Chapman may be mentioned one on "Ergot: its natural history and uses as a therapeutic agent," which was originally delivered as a lecture to the students of the Long Island College Hospital, and was subsequently printed in the *Medical and Surgical Reporter* of 1861. His views on "Infant Diet" were communicated to the *Sanitarian* in 1875, and on "Pyrophosphate of Iron" to the *Boston Medical and Surgical Journal*. He also wrote on the following subjects: "The true uterine mucous membrane: its structure, function, and morbid states;" "Congestion, the 'one idea' in uterine therapeutics;" "Congestion of the internal genitalia, and hypertrophy and anteversion of the uterus;" "The menstruant female: her nervous, moral, and mental perversions;" and "Flexure of the uterus."

In 1879, Dr. Chapman was elected a Corresponding Member of the *Société Médico-pratique de Paris*, and was in frequent communication with that society, as is shown by numerous letters which he received from its secretary, Dr. Jules Cyr. His treatises on "Hysterology" and the "Antagonism of alcohol and diphtheria" were made subjects of special reports to the French society by a member designated for that purpose. When Dr. Chapman was proposed for membership, his views on diphtheria and its treatment by alcohol were especially referred to, and in the discussion which was elicited by his monograph the distinguished president of the society, M. Archambault, physician to the *Hôpital des Enfants*, was surprised at the remarkable results which Dr. Chapman had obtained in the treatment of this usual fatal malady, and promised to employ his methods.

Dr. Chapman's personal qualities endeared him to all who came in contact with him, and he was in every relation of life thoroughly true and respected. As physician, teacher, and friend, he was kind and considerate, and his name will always be held in affectionate esteem by those who had the privilege of knowing and being associated with him.

THE BROOKLYN MEDICAL AID CO-OPERATIVE SOCIETY.

It is announced in the public press that a society by the above title has been organized in Brooklyn. As stated in a prospectus issued by its officers, "The object of this society is to place within the reach of the vast number of wage earners and those with small or limited incomes the means of obtaining in case of sickness the most reliable medical aid and necessary medicines, in such a manner that the cost of the same shall not be, as is now invariably the case, a direct burden on the sick or their relatives."

The general plan, as we understand it, is to treat through the physicians of the society, those who hold certificates; fifteen of these physicians have already been engaged. The city is to be divided into fifteen districts, the latter to be so arranged that the residence of one of these physicians shall be in the centre of a district. The holders of certificates are entitled to the gratuitous services of the physicians, cases of confinement and surgery excepted, and also to the medicines which may be prescribed by these physicians. The general admission fee is fifty cents, the amount subsequently to be paid varying for each grade. The following tables show the expense connected with a membership in this society.

Table for adults, meaning any male or female over 16 years of age:

	Grade A, ages 16 to 30.	Grade B, ages 30 to 45.	Grade C, ages 45 to 70.
Weekly .....	.10	.14	.18
Monthly .....	.40	.56	.72
Quarterly	\$1.20	\$1.65	\$2.10
Yearly	4.05	6.50	8.00

Table for two adults, husband and wife:

	Grade D, ages 16 to 30.	Grade E, ages 30 to 45.	Grade F, ages 45 to 70.
Weekly .....	.15	.20	.25
Monthly .....	.60	.80	\$1.00
Quarterly	\$1.75	\$2.30	2.90
Yearly	6.75	8.75	11.35

The entrance fee for husband and wife is 75 cents, and for families 75 cents.

The table for families, including one adult (husband or wife) and children under 16 years of age, is as follows:

No. of children.	Grade G. Ages 16 to 30.				Grade I. Ages 45 to 70.			
	1	2	3	4	1	2	3	4
Weekly .....	.15	.19	.22	.25	.23	.27	.30	.33
Monthly .....	.60	.76	.88	\$1.00	.92	\$1.08	\$1.20	\$1.32
Quarterly	\$1.75	\$2.20	2.42	2.90	\$2.65	3.04	3.38	3.80
Yearly	6.75	8.65	9.50	11.35	10.25	12.00	13.00	14.25

Another table for families, which includes husband and wife and their children under 16 years of age is as follows:

No. of children.	Grade J. Ages 16 to 30.				Grade L. Ages 45 to 70.			
	1	2	3	4	1	2	3	4
Weekly . . . . .	.20	.24	.27	.30	.30	.33	.36	.39
Monthly . . . . .	.80	.96	\$1.08	\$1.20	\$1.20	\$1.32	\$1.44	\$1.56
Quarterly	\$2.30	\$2.85	3.04	3.39	3.39	3.30	4.20	4.48
Yearly	8.75	11.00	12.00	13.00	13.00	14.75	16.00	17.35

There is an intermediate grade in each of the above tables, including the people between 35 and 40 years of age. Charges to them are proportionately higher than for grades G and J, and lower than for grades I and L.

The only physician whose name has as yet been announced in connection with the society is that of Dr. Charles T. Hepp, who is its Medical Director. In a notice of this new organization, which recently appeared in one of the daily papers, it is stated that this is the first society of its kind in America. The experiment will be watched with a good deal of interest by the medical profession, although we doubt very much whether the prophecy uttered by a writer in this same paper will be fulfilled, that "This is a kind of medical trust which, if successful, will cause much woe to the local doctors."

Whether there is any need for such a society is a matter in regard to which opinions may differ. There is a certain lack of candor, and a want of strict adherence to the facts, in the statement made in the prospectus of the object for which the society was established, viz., "to place within the reach of the vast number of wage earners and those with small or limited incomes the means of obtaining in cases of sickness the most reliable medical aid and necessary medicines, in such a manner that the cost of the same shall not be, *as is now invariably the case*, a direct burden on the sick or their relatives." We submit that this is a gross injustice to hundreds of physicians now living in this city, and to thousands who have passed away, after devoting many years of gratuitous service to the poor of Brooklyn. In the January number of the JOURNAL we referred to the fact that more than 80,000 persons are annually treated in the hospitals and dispensaries of this city, but an insignificant fraction of whom pay a single dollar for their medical or surgical treatment, and a mere nominal amount, often but ten cents, for the necessary medicine. Most of those who

are thus treated belong to the class denominated in the society's prospectus "wage earners." In regard to the other class for whose benefit this society was organized, "those with small or limited incomes," we would like to know what physician ever refused to adapt his charges to the ability of his patient to pay? On the other hand, we would like to ask how many physicians are there in this city, and elsewhere throughout the civilized world, who have not repeatedly not only adjusted their fees to the supposed financial condition of their patients, but receipted their bills in full when they learned that through business failure or other misfortune, all sources of income had been cut off? We sincerely hope for the honor of the medical profession that the portion of the prospectus which we have quoted was not written by a physician. If it was, and his practice has been of the kind to justify the statement which is made in the prospectus, we hasten to assure the public that such treatment of the poor by physicians is an exception.

It might not be inappropriate to ask why make an exception of cases of confinement and surgery? If this organization was called into existence by a true desire to aid the poor, why not administer to all their needs, parturient and surgical, as well as medical? It certainly will not be maintained that the poor have no need for services of this character! In fact it is in just these cases that the expense of medical attendance is the greatest, an expense which the poor can least afford to meet. A purely philanthropic society would hardly have omitted to include this class of services in the list of those to be furnished to their members.

Another question which might with propriety be asked is, How did this society come into existence? Did the "wage earners" and "those with small or limited incomes" petition for such a society, or is the society through its officers now seeking the "wage earners" and "those with small or limited incomes?"

VITAL STATISTICS AND THE CENSUS.

The hand of the politician is discernible in many of the bad laws which from year to year find their way into the statute books. The interference of the politician is no less potential, though not so easily detected, in the emasculation or complete destruction of good meas-

ures which are proposed in the Legislature, but which for partisan or sordid reasons it is deemed by those in power unwise to permit to become laws. Unless these measures are followed from the time of their introduction to their final disappearance in committees, their very existence is unknown. Such a measure as is here referred to is that which should have passed the Legislature of the State of New York in 1885, providing for a census by the State authorities. That the bill having this for its object did not become a law was due to a conflict between the Governor and the Legislature, the executive and the legislative branches of the Government being of opposite political faith, and each fearing that the other might gain some party advantage by the passage of a bill, unless that bill could be cut and pruned to suit the politicians of their respective parties. The census figures, which are now the basis for the computation of the death, birth, and marriage rates, are therefore those which were obtained by the Federal Government in 1880. This census is not regarded, so far as Brooklyn is concerned, as accurate; indeed it has been said that in the enumeration, whole blocks of houses were overlooked. How much truth there is in this statement we cannot say; but that such a statement can be made would seem to indicate a reasonable doubt of the accuracy of the results obtained. The State itself has made no enumeration of its inhabitants since 1875, and from present appearances will do nothing in that direction until 1895, being content to wait for the Federal census in 1890, and then satisfied to accept this as sufficient for the succeeding five years. Bearing these facts in mind, it will be seen that the rates both for the city, as given monthly to our readers by Dr. Young, and of the State, as given by Dr. Wyckoff in this number of the JOURNAL for the year 1887, are to be accepted as approximate only. It is an impossible task for any one, however experienced, to form an estimate of the present population of Brooklyn. In Boston, a much smaller city than Brooklyn, and one whose growth is not to be compared with that of Brooklyn, an estimate of the number of inhabitants, which for several years was made the basis for the computation of the birth and death rates, was, when an accurate enumeration came to be made, found to be wide of the mark, so wide indeed as to make a very marked increase in the death rate, the population having been largely overestimated. A correct enumeration of the population of Brooklyn is a thing greatly to be desired, but we see no way to obtain it for many years to come.

OUR EXCHANGES.

The Albany Medical Annals, which has heretofore been the organ of the Medical Society of the County of Albany, has outgrown its original plan, and will hereafter have a broader field and be a journal of medicine, practically in the same hands as before, but now published by the "Albany Medical Library and Journal Association. This association has been organized for the purpose of maintaining a reading-room which shall be supplied with all the leading medical periodicals at home and abroad, and also for carrying on the journal."

Like the library and reading-room of the Medical Society of the County of Kings, to which all our exchanges and books for review etc., are given, the *Albany Medical Annals* will be an important factor in maintaining this library and reading-room.

We wish our Albany brethren success in their new enterprise.

The Northwestern Lancet (St. Paul, Minn.) appears in an enlarged form, and is issued semi-monthly instead of monthly. In recent numbers we notice interesting articles on "Puerperal Insanity," by Dr. J. E. Bowers, and on "Sepsis and Anti-sepsis in Midwifery," by A. P. Cates, M. D.

In an article on the unnatural posture during defecation, and its relation to constipation, hæmorrhoids, and uterine displacements, Dr. A. W. Abbott condemns the comforts and conveniences of modern civilization and the "sitting posture as favorable to constipation," and states that the prolonged straining incident thereto has an effect of producing hemorrhoids, and in women, uterine displacements as well.

The New York Medical Abstract comes to us in a new dress, having abandoned the designed cover bearing the head of Esculapius, substituting the plain letter-press title page.

PROCEEDINGS OF SOCIETIES.

THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

The regular monthly meeting of the Medical Society of the County of Kings was held in their rooms, 356 Bridge street, Tuesday evening, March 20th, 1888, at 8 o'clock.

There were about 50 members present.

Dr. Wallace, in the Chair; W. M. Hutchinson, Sec'y.

The minutes of the previous meeting were read and approved.

The Secretary read the reply of the Commissioner of Health, acknowledging the receipt of the resolutions concerning typhoid fever, adopted by the Society at the February meeting, and stating that he would prepare an amendment to the ordinances, in accordance with the resolutions, for the necessary approval of the Board of Aldermen.

The Council reported for membership the names of Drs. Henry B. Read and C. A. Canfield.

The Council reported the election to membership of the following Drs., viz.:—Wm. C. Murray, E. S. Rupert, John L. McCumber, Wales L. Cary, Arthur Conklin Brush.

The following Drs. were proposed for membership:

Dr. C. Lott, 124 Reid ave., L. I. College Hospital, 1884; proposed by Walter B. Chase, M.D., seconded by W. M. Hutchinson, M.D.

Dr. George Newton Ferris, Kings County Asylum, Flatbush, L. I. College Hospital, 1880; proposed by Dr. R. L. Dickinson, seconded by Dr. Charles Jewett.

Dr. David C. Holton, 97 Norman ave., Bell. Hospital Medical College, 1886; proposed by Dr. Edward Parkes, seconded by Dr. Walter B. Chase.

Dr. Charles H. Shepard, 81 Columbia Heights, 13th street College, 1859; proposed by Francis H. Stuart, M.D., seconded by W. M. Hutchinson, M.D.

Dr. Horace B. Scott, 352 Hancock st., Jefferson Medical College, Phila., 1882; proposed by Dr. Chas. E. De La Vergne, seconded by E. A. Lewis, M.D.

Dr. Heber N. Hoople, 721 Greene ave., Toronto, 1885, Bellevue, 1885; proposed by Dr. J. H. Hunt, seconded by Dr. Chas. Jewett.

Dr. H. A. Tucker, Jr., 393 Clinton st., L. I. College Hospital, 1888; proposed by Dr. J. A. McCorkle, seconded by Dr. Frank E. West.

Dr. J. J. Keyes, 236 17th st., L. I. College Hospital, 1886; proposed by Dr. John Harrigan, seconded by Dr. J. A. McCorkle.

Dr. Benj. Burroughs, 443 Franklin ave., L. I. College Hospital, 1888; proposed by Dr. J. A. McCorkle, seconded by Dr. Frank E. West.

Dr. Frank Baldwin, 138 Sumner ave., University of New York, 1878; proposed by Dr. Walter B. Chase, seconded by Jos. H. Hunt, M.D.

The Chair announced that Dr. Butler, who was to have read a paper entitled, "Clinical Notes on Strophanthus, Agaricine and Paraldehyde," was unable to be present, but that Dr. Francis H. Stuart had kindly consented to present to the Society some observations in regard to Strophanthus, which he had just finished translating from the German.

Dr. Stuart then read his paper, which was discussed by Drs. West and Van Cott.

The next paper of the evening entitled, "A Case of Multilocular Dermoid Cyst; Suppuration; Operation; Death," by Dr. C. N. Cox, was then read, and discussed by Drs. Fowler, Jewett and Buckmaster.

Dr. A. Ross Matheson read a report of three cases of Double Pneumonia occurring simultaneously in one family. This paper was discussed by Drs. Jewett, Thayer, Van Cott, Minard, Chase, and Maddren.

REPORTS OF COMMITTEES.

The Library Committee reported progress.

NEW BUSINESS.

The Chair requested that members offering propositions for membership would see that the diplomas of those proposed were sent to the Rooms for the approval of the Censors, and after such approval further see that they were returned to their respective owners.

There being no further business the meeting adjourned.

W. M. HUTCHINSON, M.D.,

Secretary.

BULLETIN OF SOCIETIES.

The April meeting of the Medical Society of the County of Kings will be held at the rooms, 356 Bridge St., on the 17th inst., at 8 o'clock P.M.

Meetings of the Brooklyn Pathological Society will be held at 356 Bridge St., on the evenings of April 26th and May 10th.

At the meeting to be held April 26th the discussion of Dr. Rockwell's paper on "Laparotomy in acute intestinal obstruction" will be taken up. It is desired that there be a large attendance of the profession and a full and free discussion of the subject.

Those who are not members of the society can obtain copies of the paper by addressing Dr. Frank W. Rockwell, 6 Lafayette Ave.

The Brooklyn Surgical Society will meet at 356 Bridge St., on April 19th, when Dr. J. B. Bogart will read a paper, the subject of which is not yet announced. It will also meet at the same place on May 3d.

The Kings County Medical Association will meet at Everett Hall, 398 Fulton St. on May 1st.

The Brooklyn Dental Society will meet at 356 Bridge St. April 23d, at 8 o'clock P. M.

The Kings County Pharmaceutical Society meets on the 2d Tuesday afternoon of each month at 356 Bridge St. The next examination of the Board of Pharmacy will be held at the same place at one o'clock in the afternoon of April 26th.

The officers of the various societies are requested to send in their programmes before the first of the month to insure publication in the JOURNAL.

PROGRESS IN MEDICINE.

SURGERY.

BY GEORGE R. FOWLER, M.D.,

Surgeon to St. Mary's Hospital and to the Methodist Episcopal Hospital, Brooklyn.

A NEW SURGICAL OPERATION FOR THE TREATMENT OF CANCER OF STOMACH.

Aug. C. Bernay's (*Annals of Surgery*, Dec. 1887), reasoning from the researches of Waldeyer, that in all cases of primary carcinoma of the stomach, the malignant growth derives its origin from the epithelial elements of the mucous membrane, and that the muscular is the last involved, the disease advancing towards the lumen of the organ,—and from the fact that, in post-mortem examinations of those dying of this disease a marked resemblance is found between the conditions existing and those commonly found in primary carcinoma of the uterus, was led to devise a new operation for the relief of this class of sufferers. This consists essentially in first performing gastrotomy, and then removing the cancerous growths from the interior of the stomach through the opening thus formed, by means of curettes or other suitable instruments. The merit of this operation lies in the fact that it offers, by means of a procedure not highly dangerous in itself, (which cannot be claimed for the excision method of Billroth, and the gastro-enterotomy of Wolfler,) a chance of prolonging life as well as rendering the condition of the patient comparatively comfortable. Two cases are recited of the operation in which these objects seem to have been achieved, and which stamp the method as worthy of further trial.

THE PERMANENCY OF THE RADICAL CURE OF HERNIA.

Chauncey Puzey (*British Medical Journal*, Dec. 17, 1887,) calls attention to the difficulty of arriving at the truth regarding the permanency of the success following the operation for the radical cure of hernia by ligation of the neck of the sac at its neck, generally combined with the removal of the same, with or without suturing of the pillars of the ring. Out of seventeen patients upon whom he performed the radical operation, and whose after histories he attempted to trace, in only seven could this be done in a satisfactory manner. These, however, were found to be in good condition. Four of them had been operated upon on both sides, and two of these had been subjected to the double operation on the same day. In the other two cases an interval of two or three years had been allowed to elapse between the operations. In the seven cases, there have been eleven radical cures. The oldest

case of the series had been hard at work as a porter, and had suffered no relapse. The shortest time following the operation in which an opportunity offered of judging of the success of the operation was the case of a fireman on a steamer, who had been subjected to the double operation upon the same afternoon. A year afterward he was found to be apparently cured. The other cases varied from two to three years since the operation, and a perfect result was secured.

In regard to the technique of the operation it is to be observed that, out of twenty-four cases, in eleven the pillars of the ring were stitched when it was very patulous. Stout cat-gut or chromicized catgut seems to have been the favorite material, both for ligating the neck of the sac and for suturing the pillars of the ring. In case of a very thick and unyielding sac, it is first transfixed and one-half ligated, the other being subsequently encircled by the remaining portion of the ligature; this insures the latter against slipping. A noticeable feature of the author's treatment of the case following the operation is the emphasis he places upon the necessity for compelling the patient to remain in the recumbent position for at least eight weeks subsequent thereto. He allows them to wear a light truss, in some cases, for a month or two. The latter portion of the after-treatment is open to criticism, for no doubt can be entertained that it is the judgment of experienced surgeons latterly, that this may and does predispose to thinning of the cicatrix and a return of the hernia. The spica-bandage spoken of, minus the elastic pad recommended, would be a far more rational expedient for supporting the parts.

CASE OF THYROTOMY FOR RECURRENT GROWTH IN THE LARYNX.

G. Hunter Mackenzie, (Edinburgh Medical Journal, December, 1887) reports a case in which the first symptoms consisted of hoarseness, with some redness of the vocal cords and a slight swelling of the ventricular bands. Two months subsequently, under local treatment, these, with the exception of the voice changes, had disappeared. The latter, however, remained quite aphonic. At this time, examination revealed a warty growth at the anterior commissure, projecting slightly between the vocal cords. A portion of this was removed for microscopical examination, and was decided to be but a simple papillary growth. The patient's pregnant condition was deemed to be a contra-indication to a radical operation. Five months later, the growth was found upon examination to have increased in size sufficient to block more than one-third of the glottis. Urgent dyspnoea supervening, thyrotomy was performed, the growth removed, and its seat of attachment cauterized with nitrate of silver. Microscopical examination showed this to be papilloma. Two months later the growth returned.

Thyrotomy was performed, and again the diagnosis of papilloma verified by the microscope. After the operation the base was cauterized with the thermo-cautery. Two years afterward a similar growth was found springing from the left vocal cord. More recently a similar growth has commenced to grow from the hard palate.

An extraordinary insensitiveness to the anesthetic effects of a 40 per cent. solution of cocaine forms an interesting feature of this case. The patient had regained complete control of the voice despite the extreme cauterization at the second operation. In view of the recurrence of the disease in the larynx at a point other than that from which it was removed, and the occurrence subsequently of a growth presenting the same characteristic upon the hard palate, it would seem best not to institute further operative interference, in spite of its supposed benign character, unless dyspnœa should demand the performance of tracheotomy.

Sir Morrell Mackenzie's original diagnosis in the case of the Crown Prince of Germany, and the failure of Virchow to discover elements in the portion of growth removed for examination, stamping it as malignant, together with the subsequent history, makes this case of peculiar interest at this time.

A CONSECUTIVE SERIES OF TWENTY-SIX OPERATIONS FOR THE RADICAL CURE OF HERNIA.

A. W. Mayo Robson, (*British Medical Journal*, Dec. 17, 1887.) If it can be proved that certainty and safety are the rule and not the exception in this method of dealing with this troublesome and common affection, medical men will advise, and patients will see the expediency of submitting to operation, as soon as the hernia ceases to be controlled by a truss, either on account of its size or irreducibility, or from any other cause. In summing up the series of twenty-six cases presented in tabulated form, it is observed that thirteen were for cases in which strangulation had taken place, the remaining thirteen being simply remedial cases, operated upon because of failure of trusses to be of benefit; this failure being due to irreducibility or from the large size of the hernial aperture. In all but two cases the sac was excised after its neck had been ligatured. The canal was only sutured if found to be very open. Listerism was strictly followed in every case, and as a rule but one or two dressings were required. The material used for ligaturing the neck of the sac is not mentioned. In ten cases complete closure of the wound by first intention took place. In one case considerable suppuration in the scrotum occurred. In six cases healing took place partly by first intention and partly by granulation. In the remainder "uninterrupted recovery" is noted. In the only two fatal cases

in the series, death resulted from bronchitis, one of these being a patient aged 56, and the other 65. Of the remaining cases, one is classed as relieved and the others as cured. The former is noted as having been operated upon by Woods' method, the hernia returning after three months. In four cases it was deemed advisable to have the patient wear a truss after the operation.

As a result of his experience, the author declares a decided preference for the operation of excision of the sac and ligature of its neck as high up as possible. If the sac be separated from its surroundings before it is emptied, the operation is both shortened and simplified.

ERYSIPELOID.

Prof. Rosenbach, of Gottengen, in a contribution presented to the XVI Congress of German Surgeons, Berlin, April 13, 1887, (Archiv. f. Klinische Chirurgie: 36 Band, 2, Heft. p. 346.) treats of this affection, which for some time has been known under the names chronic erysipelas, erythema migrans, etc. It is important only from the fact that it is to be classed among the diseases resulting from wound infection. It is entirely local in its action, but is especially interesting by reason of its etiology. Rosenbach has discovered a peculiar thread-like microbe, which, he declares, does not belong to the family of cocci, neither is it allied to bacteria or bacilli, but belongs to a peculiar class of micro-organisms very little known among pathologists. The affection under discussion presents a form of disease, typical and *sui generis*. It possesses but trifling power of contagion, probably being but seldom directly conveyed, but may be acquired by inoculation of the *materies morbi* from an infected wound to a healthy one. The virus is generated in the decomposition of animal matters, and occurs among cooks, restaurant keepers, game dealers, butchers, tanners and fish dealers; shop-keepers may acquire it from handling foul cheese, herring, etc. It is found more frequently on the hands, although inoculation may occur on any part of the body. From the point of inoculation there extends a dard red, frequently livid swelling, with well defined borders, very similar to true erysipelas. There occurs itching and burning of a persistent character. There are no well marked constitutional symptoms. The course of the disease is slow in its progress, occupying from one to three weeks. R. succeeded in cultivating the microbe in gelatine and inoculated himself with the same, and after forty-eight hours was enabled to study the course of the disease in his own person. Experiments upon rabbits, however, failed to give any definite results. The microbe seems to be quite long lived, for after four months signs of germination were discovered in detached foci.

Cohn, under the name of *Cladothrix Dichotoma* has described a

similar organism which possesses long threads with false branch foundations, twigs with spiral twist, etc.

Three cases of this affection, of considerable severity, have fallen under the notice of the abstractor: the first occurred in the person of a saloon keeper, and the point of inoculation was a punctured wound of the forearm from a lead pencil. The disease extended over a period of four weeks, and attacked in succession all parts of the cutaneous surface, finally terminating in a well marked *icturus* with symptoms of gastro-duodenitis, with probable extension of the inflammatory action to the ducts. The second case was that of a restaurant keeper, the point of infection, in this instance, being an old ulcer of the leg. This, like the first, was tedious in its course, extending over the entire body, and resisting all measures of treatment, ceasing only after successive invasion of the entire tegumentary surface. The third case was that of the wife of a butcher, and this, like the second, had its beginning in a chronic ulcer on the ankle. Here also the entire surface of the body became involved, in successive areas of extension of the disease, and ran a protracted course. There developed in this patient, who was at the menopause, and who was of an hysterical temperament, a dementia, attributed to the prolonged loss of sleep resulting from the long continued, persistent and intolerable itching and burning. For months after the cutaneous affection had subsided, and the patient was otherwise well, an annoying pruritis of the vulva existed. This, however, yielded, when an erosion of the cervix uteri was discovered and treated successfully by applications of the solid stick of nitrate of silver.

THE RADICAL CURE OF HERNIA, WITH SPECIAL REFERENCE TO THE OPEN TREATMENT OF THE OPERATION WOUND.

Dr. Charles McBurney (The New York Medical Journal, Jan. 21, 1888) says that operations for the radical cure of hernia in strangulated cases have now been done sufficiently often, and enough reliable reports have been collected, to justify one in saying that in any, excepting extraordinary cases, the operation is one involving but little risk to life. The great majority of deaths have occurred from two preventable causes, hæmorrhage and septic complications. Greater care in the ligation of omental pedicles will render hæmorrhage a very rare occurrence, and sepsis will seldom be seen under proper antiseptic precautions. He also calls attention to the fact, generally ignored, that every patient who has a hernia is already in a dangerous condition.

No operative procedure is worthy the name of radical cure that does not, at least in the very large majority of cases, secure to the patient not only a permanent relief from his malady, but also a freedom from mechanical appliances used to prevent its return. Means employed only

to excite a variable amount of consolidation of the areolar tissue outside of the sac, such, for instance, as Heaton's operation, as well as all operations which depend upon plugging the canal with an inverted pouch of skin, or upon narrowing the canal by sutures passed subcutaneously, do not deserve to be called a radical cure. So long as a communication exists between the general peritoneal cavity and a hernia pouch, no matter how small the latter may be, there is danger, not only of hernia, but of a strangulated hernia. It is now equally accepted by surgeons that the most important step in the attempt to cure a hernia radically is the complete obliteration of the hernial pouch of peritoneum.

After commenting upon and criticizing the different plans in vogue, these consisting of cutting off the sac and suturing its edges to the ring, the method of closing the sac by ligature, torsion of the sac, and the method of Mac Ewen of suturing the peritoneal pouch in such a manner that it can be introflected upon itself, or pursed up, as it were, he proceeds to describe a method of dealing with the sac and canal which is well worthy the careful consideration of surgeons: a free incision is made, beginning opposite the internal ring and extending to the lower end of the sac. The sac is dissected out to its lower end and stripped of all its attachments. The outer wall of the canal is split up to the internal ring, the sac lifted radically from the body, opening the same, and with a finger pushed well through its neck, thus insuring perfect reduction of its contents, a ligature is applied evenly and firmly at the juncture of the sac and peritoneum, and the sac removed. There now remains a long wound, in the case of inguinal hernia, which includes the whole length of the canal to the internal ring. The bottom of this wound is formed by the fascia transversalis, with the peritoneum behind it; the conjoined tendon and the transversalis and internal oblique muscles, and the inner pillar of the ring form the upper or inner margin of the wound. The lower or outer edge of the ring consists of Poupart's ligament and a strip of external abdominal aponeurosis and the outer pillar of the ring. To provide against the possibility of the formation of a feeble bond of union between any two of these layers on opposite sides of the wound, a special method of suturing, to insure patency of the wound, and obtain healing by granulation, is followed. This method of suturing resembles that which is followed in the performance of Volkmann's operation for the radical cure of hydrocele, and consists in binding together the tissues constituting each edge of the wound, and then packing the wound itself with gauze or other dressing material. The effect of this is to obliterate the inguinal canal, a firm cicatrix taking its place. The patient is kept in bed for six weeks, and is not allowed to wear a truss thereafter.

A number of cases are reported, in which the operation seems to have been very successful, although sufficient time has not yet elapsed since even the earlier ones were operated upon to speak positively of the final result. The operation is founded upon sound surgical principles, and is worthy of extended trial. It certainly promises to give better results than any of the methods heretofore in vogue in which the divided layers of the abdominal walls were brought edge to edge, and the inguinal canal and internal ring simply "fastened" and sutured. One can scarcely imagine a more positive safeguard against a hernial protrusion than the existence of a depressed cicatrix, firm and unyielding, occupying the site of the inguinal canal and internal ring. That McBurney's operation will be of value, there can be no doubt, and its author is to be congratulated upon having so successfully solved one of the most vexed questions in the matter of remedial operations in the treatment of hernia, namely, that of the necessity or otherwise of wearing a truss as a part of the after treatment.

TUBERCLE OF THE TESTIS.

Dr. R. W. Taylor (American Journal of the Medical Sciences, Jan., 1888, p. 43). Although much has been written upon surgical tuberculosis in this country, and much good work in an operative way has been done in the field of genito-urinary tuberculosis, nothing of importance has been published as to the histology of these affections as seen in the light of modern research, clinical and microscopical. The macroscopic and microscopic appearances found in four testes removed from two patients are described. In these testes the interesting and not very unusual clinical fact is presented of the tuberculous process beginning spontaneously in the epididymis, and involving the testis proper, and in marked contrast with what is so frequently the case, namely, the development of tuberculosis in an epididymis or testis the seat of previous traumatic or gonorrhœal inflammation.

In the first case recited, the family history included the death from phthisis of the mother, together with three brothers and sisters before the fortieth year. The personal history was suggestive of slowly advancing pulmonary tuberculosis. Tubercle bacillus was found in the expectoration. The tubercles in the patient became the seat of pain, swelling, and finally abscess. Both organs were removed. The epididymis from the left side was enlarged, and honeycombed with yellowish semi-fluid areas; the testicle presenting upon section small white opaque nodules, varying in size from a pin's point to a pin's head. The right epididymis presented a similar appearance to the left, and the right testis contained an ellipsoidal cheesy mass, 2 by 3 ctm. in diameter. Outside of the corpus Highmori, which was involved in the latter, the

testicle tissue contained small white nodules of the same character as the other testis. Microscopic examination revealed in the epididymis circumscribed collection of pus cells; extensive areas of vascular small round-celled tissue resembling granulative tissue, with extravasation of blood; diffuse tubercle tissue, resembling granulative tissue, but identified by the presence of tubercle bacilli; a few well defined tubercle granula; groups of normal seminal tubules; seminal tubules in various stages of degeneration. In the testicle were found tubercle granula; an increased amount of interstitial tissue; changes in the walls of the tubules and in the parenchyma; grayish-white globular bodies of varying structure. In the right organ, in addition, the large cheesy mass was composed of confluent miliary tubercles and cheesy areas.

The second case also had a heredity suggestive of tuberculous disease. Usual history of swelling, pain, pointing of abscess in each organ in succession, etc. No bacilli were found in the sputum of this patient. Operation advised, but declined for six months, when consent was obtained, and both organs removed. The left epididymis enlarged, cheesy, and at its summit a small elongated cyst contains a clear fluid. The mediastinum contained a nodule the size of a pea, with a cheesy centre. Upon the cut surface of the testicle are scattered a few minute white spots. The left epididymis is also enlarged, soft and cheesy; surface of the albuginea nodular; a mass of confluent nodules occupies the mediastinum and about one-third of the testicle. Microscopically, left epididymis contains granulative tissue and cheesy areas. The changes in the testicles are similar to those in the first case, but less marked. Those in the right testicle are more extensive than either of the others, but similar in character.

These cases, and the observations made upon them by Dr. Taylor, are particularly interesting and valuable, both from the very careful manner in which they have been studied and presented, and from the fact that they illustrate those phases of diffuse orchitis. Gangrenoid, inflammatory and tubercular affections are of frequent occurrence, and it is no easy task to interpret the appearances as they are found in different parts of the organs. The so-called pseudo-tubercle granula frequently mask the tubercular process itself.

DEATH FROM INTESTINAL HÆMORRHAGE DUE TO VASCULAR TUMOR.

Dr. F. W. Mercer (Medical Record, Jan. 21, 1888,) recites a case of a female, æt. 34, who always considering herself previously in good health, about a year before coming under observation, complained of a throbbing sensation in the left inguinal region, and some slight indigestion. Suddenly, after a few hours of indisposition and weariness, she suffered an intestinal hæmorrhage, which was thought by the

attendant to have its origin in "bleeding piles." A second flow of blood occurred while the patient was attempting to seek the bathroom, during which she fainted. For the next ten hours the bleeding continued, at the end of which time the patient died.

At the autopsy, a tumor was found resting in the median line at the lower part of the hypogastric region, nearly spheroidal in shape, about 9 cm. in diameter, and weighing 455 grammes. It was moderately firm, and attached by a slender, short pedicle to the small intestine (ileum), about fifteen inches above the cæcum. Upon section of the ileum, an oval opening was discovered upon its mucous surface, about 4 mm. by 3 mm.; this opening corresponded to the pedicle upon the peritoneal surface and communicated with an artery of about 4 mm. calibre. The tumor proved to be a vascular myoma; the uterus was found to be, likewise, the seat of numerous myomata.

It does not appear that operative treatment of any sort was suggested in this case. Transfusion was thought of, but it is stated that "the means were not at hand." It is to be hoped that the day is not far distant when an intestinal hæmorrhage will be treated, like all other accessible hæmorrhages, by seeking the source of the bleeding, and treating it precisely as one would if it occurred upon the external surface of the body.

A VERY VALUABLE LESSON FOR THOSE WHO USE ANÆSTHETICS.

Dr. Julian J. Chisholm, of Baltimore, Md. (*Medical Record*, Jan. 21st, 1888), relates the case of a healthy and robust child of three, in whom, while attempting to extirpate a gliomatous mass from the eye, symptoms of dangerous chloroform narcosis occurred. These were relieved by suspension of the patient, head downwards, until respiration and pulse were re-established. This occurred three times during the operation, and the operator was finally compelled to finish the operation with the patient in this position. No other measures for the restoration of the patient were resorted to.

In spite of the anxieties incident to such an occurrence, and the fact that it is one occurring to him "now and then," the author still asserts his preference for chloroform as an anæsthetic. His advocacy of it is based upon an experience of at least ten thousand administrations without a single death. He uses an inhaler or towel folded in a cone form, with the apex of the cone open for the free entrance of air. If the ears remain pink, he does not trouble himself about the pulse. The usual precautions of drawing the chin forcibly upwards, thus pulling the anterior wall of the pharynx and the hyoid bone and root of the tongue forward, making for the air a clear and straight passage into the lungs, are practiced when snoring or other evidences of obstructed breathing occur.

Dr. Chisholm's frequent need for the use of, and his faith in Nelaton's

great discovery, and the fact that this method has "served him well on many trying occasions," is a sufficiently suggestive commentary upon his advocacy of chloroform as a safe anæsthetic. In addition to this, the fact that he is an ophthalmic surgeon, and from this fact is enabled to keep a closer scrutiny of the patient's face, and that he suspends the anæsthetic as soon as he commences to operate, instead of having it continuously administered by an assistant whose interest in the operation detracts his attention from the patient's face, may account for his great success in its use.

CASE OF OBSTRUCTION OF THE BOWELS DUE TO ADHERENT DIVERTICULUM.
ABDOMINAL SECTION. DEATH FROM HEART-FAILURE ON THE THIRD DAY.

Prof. A. Vander Veer (*Medical Record*, Jan. 21st, 1888), recites the case of a player upon the clarinet, who, at a band-meeting, was suddenly attacked with severe abdominal pains. Cathartics and anodynes were administered. No movements of the bowels could be obtained. Pain not severe nor continuous. Pulse and temperature normal. On the sixth day he was brought to the hospital and seen by Prof. Vander Veer, when his condition was as follows: pulse 88, small and soft; temperature 99.2° F.; tongue heavily coated; pain in left iliac region, with slight tenderness; abdomen slightly distended, and eructation of gas of a feculent odor: slight dullness in lower part of abdomen. Large enemata, distension of lower bowels with carbon dioxide, etc., having failed, a rectal tube was passed eighteen inches and the lower bowel relieved from the painful distension caused by the latter. Abdominal section was then done, and the following condition disclosed: about three feet from the ileo-cæcal juncture a diverticulum of the intestine was found, pear shaped and about three inches in length, whose free end was attached by adhesions to the cæcum, thus forming a triangular space into which a fold of the ileum had been caught, causing an obstruction and partial strangulation of the bowel. The latter was also adherent to the crest of the sacrum. The diverticulum was loosened from the cæcum, ligated near the ileum, and excised, the pedicle being invaginated into the wall of the ileum and the peritoneal surfaces of the latter brought over the same and stitched by catgut. The intestine was loosened from all adhesions to the sacrum, cleansed, and returned to the abdomen. Time of operation, one hour and twenty-five minutes. Patient reacted slowly, finally rallied, but on the third day he gradually sank and died. No vomiting after operation; no movement of bowels, although a little gas passed after operation. Autopsy revealed perfect union where the diverticulum had been removed. An ulcer, the size of a dime, resulting from a circumscribed necrotic condition, existed on the side of the small intestine and extended through the peritoneal and muscular coats. This gave way while lifting the intestine from the abdominal cavity.

MISCELLANEOUS.

MORTALITY IN NEW YORK STATE IN 1887.

BY R. M. WYCKOFF, M. D.

The total reported mortality in the State was 96,453, of which 36.3 per cent. were among children under 5 years of age. The average annual death rate was 17.5 per mille, the population being taken at five and a half millions; this estimate is not high, but it is wanting in certitude in consideration of the fact that seven years have elapsed since a census has been made. The rate of mortality in certain selected districts, fully registered and chiefly urban in character, was 23 per 1,000; while in some other districts, largely rural, the rate ran at 18.4. If, by reason of admitted defects of registry in some sparsely settled sections and of returns not promptly sent in, the entire State be given this rate 18.4, the total deaths would have reached 101,200. Zymotic fatality was higher than during the three years last past; diarrhœal deaths being markedly numerous during the three months of midsummer, with a correspondingly large loss under five years. In that age-period, the ratio to the total mortality was in July more than one-half (52.7); in June and August it was 40 and 45.3 respectively.

BROOKLYN VITAL STATISTICS FOR FEBRUARY, 1888.

BY J. S. YOUNG, M. D., Dep. Commissioner of Health.

Population, estimated on January 1st, 1888.....	774,870
Inhabited houses, about.....	85,000
Average annual death rate per 1,000 for past 10 years.....	22.69

In the month of February, 1888, there were 1,451 deaths, the rate of mortality being 22.38 in every 1,000 of the population.

The number of births reported was.....910

The number of marriages reported was.....386

The number of still-births reported was.....125

The mortality by classes and by certain of the more important diseases was as follows :

Causes :

I. Zymotic.....	255
II. Constitutional.....	275
III. Local.....	756
IV. Developmental.....	126
V. Violence.....	39
Measles.....	1
Croup....	47
Diphtheria ...	86
Scarlet Fever.....	62
Typhoid Fever.....	5
Whooping Cough	6

Malarial Diseases.....	8
Diarrhœal Diseases (all ages).....	11
“ “ (under 5).....	9
Phthisis.....	174
Bronchitis.....	92
Pneumonia.....	186
All Respiratory Diseases.....	312
Bright's Disease.....	46
Puerperal Diseases.....	16
Old Age.....	39
Suicide.....	5
Reported cases of Infectious Diseases :	
Diphtheria.....	261
Scarlet Fever.....	357
Measles.....	42
Typhoid Fever.....	11

During the month 102 cases of small-pox were reported, of which number 102 were confirmed as small-pox; 85 cases of small-pox were sent to the hospital; 7 deaths from small-pox occurred in the city and 11 in the hospital.

Deaths by *Sex, Color and Social Condition*, were as follows: Male, 730; female, 721; white, 1,425; colored, 26; native, 1,029; foreign, 422; married, 384; single, 851; widows and widowers and not stated, 216.

Still-births (excluded from the list of deaths) were as follows: Males, 70; females, 55. Total 125.

Deaths in Public Institutions..... 118

Deaths in Tenement houses..... 390

Inquest Cases..... 136

Homicides..... 0

Suicides (2 pistol, 1 hanging, and 1 strangulation).... 4

Age Periods: Deaths under 1 year, 290; from 1 to 5, 267; total deaths under 5, 557; 5 to 20, 145; 20 to 40, 286; 40 to 60, 229; 60 and upwards, 234; 90 years and over, 6, included in the above period.

Certain foreign and American cities show the following death rate for the month of February: Brooklyn, 22.47; New York, 27.99; Philadelphia, 23.36; Berlin, 20.82; Vienna, 22.54; Paris, 24.92; London, 22.98; Glasgow, 24.58; Dublin, 29.90.

THE TREATMENT OF EARLY PHTHISIS.

Plain steam is good in irritative cough with dry air-tubes. Iodine, carbohc acid, eucalyptus, Friar's balsam, or ordinary terebene are often excellent medications, and allay cough. The other is a resort to a cough tincture. On this matter opinions may differ. Some use paregoric to allay ceaseless cough, and do a good deal of harm very often therewith, though paregoric is the least objectionable of "cough medicines." The reckless resort to something "to allay the cough" has,

in my experience, been too frequently followed by disaster to recommend itself to a thoughtful practitioner. Something to allay cough and to preserve sleep at night certainly does more good than harm; but "cough stuff" in the day is my abhorrence. It may be no more than prejudice, perhaps.—DR. J. FOTHERGILL in *London Hospital Gazette*.



AN ACT FOR THE BETTER PROTECTION OF THE PUBLIC HEALTH IN RELATION TO THE SALE OF MEDICINES AND MEDICINAL PREPARATIONS.

The following bill has been introduced by Mr. J. W. Smith in the Assembly at Albany, read twice and referred to the committee on public health, reported from said committee for the consideration of the House and committed to the committee of the whole, ordered, when printed, to be recommitted to the committee on affairs of cities.

The People of the State of New York, represented in Senate and Assembly, do enact as follows :

SECTION 1. It shall be unlawful for any person, firm or corporation, to sell, offer or advertise for sale in this State, any secret or proprietary medicinal preparation or any substance, fluid or compound for use, or intended to be used as a medicine or for medicinal purposes unless the person, firm or corporation preparing or putting the same up for use shall first file with the State board of health a formula or statement under oath showing all the ingredients and compound parts of said preparation and the exact proportion of each contained therein, which shall be of standard strength, and also the name under which it is intended to be sold. If said board of health shall be satisfied that said preparation or its ingredients are not detrimental to public health or calculated to deceive the public, they shall issue a certificate under the seal of said board authorizing the sale of said preparation in this State, setting forth the formula under which the same is to be prepared and stating the name under which the same is to be sold, and it shall be unlawful for any other or different article to be placed in or added to said preparation or of a different degree of strength, or to sell the same under any different name than as set forth in such certificate, and there shall be paid to said State board of health for each certificate so issued the sum of one dollar for the use of said board.

§ 2. It shall be unlawful to sell, offer or advertise for sale in this State, any secret or proprietary medicinal preparation or any substance, fluid or compound for use or intended to be used for medicine or for medicinal purposes, unless the bottle or other vessel containing the same shall have plainly printed upon the outside of the wrapper and label thereof, in the English language, a statement of each and all of the component parts and ingredients of the same and the proportion of each contained therein, and in addition thereto the name and place of business of the person, firm or corporation, manufacturing the same,

and also the words "sale authorized by New York State board of health."

§ 3. Every violation of the provisions of this act shall be deemed a misdemeanor, and in addition thereto the person, firm or corporation violating the same, shall forfeit the sum of two hundred dollars, to be recovered by any person who will sue for the same in any court of competent jurisdiction, one-half thereof to be paid to the person bringing the suit and one-half to the State board of health for the use of said board.

§ 4. Nothing contained herein shall be construed to prohibit the sale of compounds or medicines put up by a licensed pharmacist in accordance with a physician's prescription delivered at the time of such sale.

§ 5. This act shall take effect immediately.

[Since the above bill was put in type, we understand that it has been killed in committee.]

BOOKS AND PAMPHLETS RECEIVED.

Proceedings of the Connecticut Medical Society, Ninety-sixth Annual Convention, held at Hartford, May 25th and 26th, 1887. S. B. St. John, Secretary, Hartford, Conn.

The Occurrence of Coma in Sudden Spontaneous Brain Lesions. By William Browning, M.D., of Brooklyn. Reprint from the *Medical News* of February 18th, 1888.

The doctor concludes with a table giving a résumé of thirty-two collected cases of cephalic embolism.

The First Quarterly Report of the Michigan State Laboratory of Hygiene. By Prof. Victor C. Vaughan, M.D., Ph.D., Director of the Laboratory of Hygiene. Reprinted from the annual report of the Michigan State Board of Health for the year 1887.

Contains: "Experimental studies on the causation of typhoid fever, with special reference to the outbreak at Iron Mountain Mich.;" and account of "Four cases of poisoning from tyrotoxinon, with three fatal results;" with "investigations as to the origin of the poison; results of the autopsy and chemical analyses."

Also Abstract of Proceedings of the Michigan State Board of Health; regular meeting, January 10th, 1888.

Removal of the Uterine Appendages (five cases). By Mary A. Dixon Jones, of Brooklyn. Reprint from the *American Journal of Obstetrics*, February, 1888.

Dangers in Gasoline. By John H. Kellog, M.D., of Battle Creek, Mich. Reprint from annual report of the Michigan State Board of Health, 1887.

Proceedings of the American Association for the Advancement of Physical Education, at its third annual meeting at Brooklyn, N. Y., November 25th, 1887.

The following pamphlets, by Henry C. Coe, M.D., M.R.C.S., have been received:

"Post-Graduate Instruction in Gynæcology." Reprint from the *N. Y. Medical Journal* for March 10th, 1887.

"Is Disease of the Uterine Appendages as frequent as it has been represented." Reprint from the *N. Y. Journal of Obstetrics*, June, 1886.

Dr. Coe seems to have reached the conclusion that "ovarian disease is *not* as common as it has been represented, the surgeons, and *not* the pathologists, being responsible for the contrary opinion.

'The Significance and Localization of Pain in Pelvic Diseases," a paper read before the N. Y. Neurological Society.

"The Use of the Curette for the Relief of Hæmorrhage due to Uterine Fibroids." A twelve-page reprint from the *Medical Record*, in which it is shown that the curette will enable a practitioner to remove the thickened endometrium which is the source of hæmorrhage in these cases.

THE
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ORIGINAL ARTICLES.

OBSERVATIONS UPON CONGENITAL TALIPES VARUS.

BY GEORGE R. FOWLER, M. D.,

Surgeon to St. Mary's Hospital; Surgeon to the Methodist Episcopal Hospital, Brooklyn.

Read before the Brooklyn Surgical Society, December 1, 1887.

It has now come to be generally acknowledged among surgeons that by far the most desirable time to commence the treatment of a case of club-foot of congenital origin is immediately after the birth of the child. Of far more importance to the happiness of the mother is the prompt treatment of the deformity of her little one than any other post-partum requirement. Physicians, however, do not always recognize this fact, and they will endeavor to keep hidden from the mother the fact that her child's foot or feet are deformed, and advise the friends that nothing can be done under, say six weeks; to attempt treatment sooner, would only awaken the mother's apprehension, "throw her into a state of nervous excitement," etc., etc., and result in no particular benefit to the child.

Now, here is just where a very grave mistake is made. The feet, in the vast majority of cases of congenital talipes, are in such a pliable condition at birth that restoration to the normal shape can be accomplished with comparatively little difficulty, and there retained by the exercise of but slight force. And the mother, as a rule, will not be so severely shocked at the sight of a light and neatly applied dressing as

is generally supposed, even should she discover it. But to be shown her offspring at the end of six weeks or two months, and to be informed that the surgeon will have to "cut something" to straighten it, is enough to produce disturbances of the nervous system arising from severe mental shock.

It may be stated as a rule, to which I have yet to meet with a single exception, that the chances of promptly restoring a foot, the subject of talipes, are directly in proportion to the early period of its existence in which treatment is commenced, and, per contra, failure of non-operative methods, and the necessity for division of tendons and fasciæ, and prolonged after-treatment will occur in the large proportion of those cases in which the treatment is delayed.

Within the past year there came to my office, upon successive days, two cases of talipes equino-varus. The first was sent by a medical practitioner of well-known ability, who had allowed the conventional six weeks to elapse before treatment was advised. The other was brought by a midwife, who was shocked to find the woman she waited upon delivered of a child the subject of a deformity of the feet. She hurriedly bundled the child under her apron, and almost ran with it to my office, in the hope that the trouble might be corrected before the mother discovered it. The cases, upon comparison, were of precisely the same character, except that the one was six weeks old, while the other had not seen the light of day twenty-four hours. The same treatment was instituted in both cases, and persisted in for three months, at the end of which time the second case was discharged cured, wearing a modification of Sayre's shoe to prevent relapse, while the first case was submitted to a tenotomy of the tibial tendons, the plantar fascia, and finally the tendo-Achillis. The last named case is still under observation.

It will require no special argument on my part to impress these facts upon surgeons; they are self-evident. But among medical practitioners there seems to exist a misapprehension as to the time when treatment should be commenced. I have asked several such the question as to when they would advise treatment to be begun, and I have yet to hear the answer, "At once." I have therefore deemed it best to present this subject to you to-night, to ascertain, if possible, if there is any foundation for this six weeks' notion.

Any one who will take the trouble to grasp, in an infant a day or two old, a foot the subject of talipes, will be surprised at the ease with which, as a general thing, it can be restored to its natural position. Take the same foot a month or six weeks afterward, and make a similar attempt. The force necessary to apply, the first white and then purple hue of the foot, together with the screams of agony of the

FIG. I.—Twice normal size.



DORSAL SURFACE.

- 1—Astragalus. 2—Scaphoid. 3—Os Calcis. 4—Tibia. 5—Fibula. 6—Cuboid. 7—Tibialis Anticus. 8—Extensor Proprius Pollicis. 9—Extensor Communis Digitorum.

child, will be far more convincing to the sceptical than any argument or train of scientific reasoning that I can bring forward.

The little feet which I have dissected and here show you were removed from the body of an infant still-born at the seventh month of pregnancy. I am indebted for their possession to Dr. Frank Baldwin. They are typical examples of the deformity known as talipes varus, the most common variety of congenital club-foot. In one I have dissected the soft parts away, so as to show the relative positions of the osseous structures, while in the other an attempt has been made to exhibit the deviations from the normal in the direction, relations, and length of the tendons.

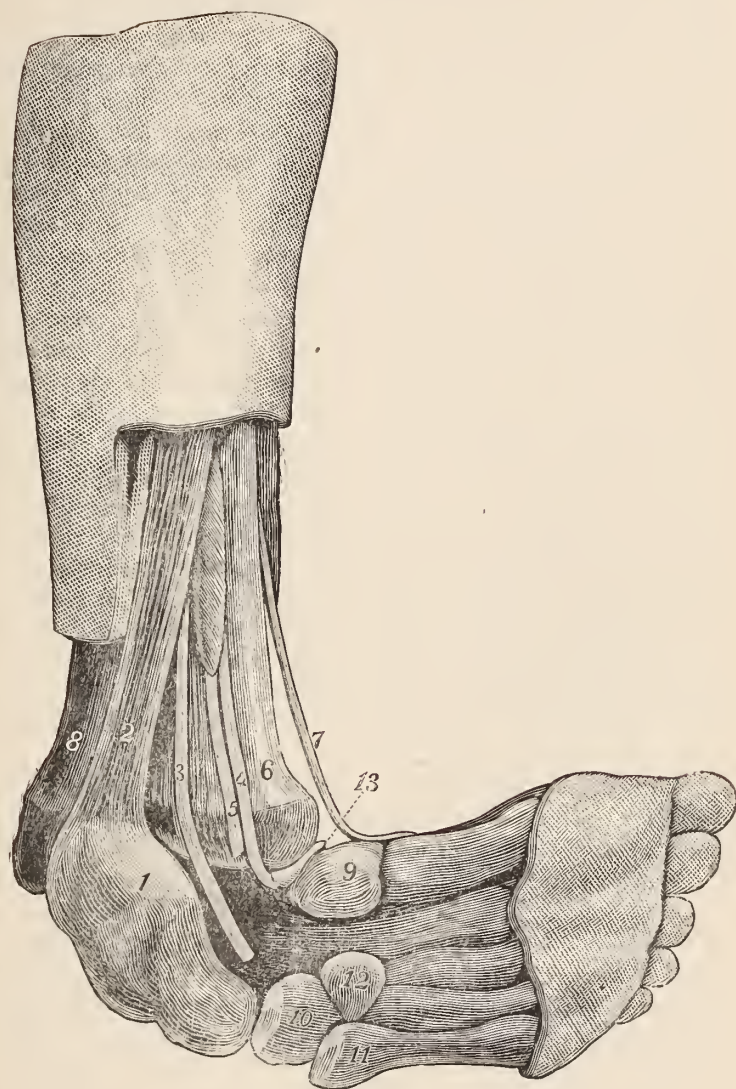
Referring to the specimen showing the deviations from the normal in the osseous tissues, the first thing which attracts attention is the oblique position of the os calcis, owing to the drawing of its tuberosity upwards by the tension of the tendo-Achillis, and a rotation upon its vertical axis by the fibrous expansion which passes to it from the tibialis posticus muscle. (Fig. 1). The tuberosity is thus drawn over towards the fibular aspect of the leg, while the surfaces designed for articulation with the astragalus and cuboid are directed obliquely inwards and somewhat forwards. In this specimen the tuberosity, owing to this rotation upon the vertical, as well as the horizontal axis of the bone, is in contact with the fibula.

The tibia presents changes in both its form and relation to the other bones forming the ankle-joint. It is rotated upon its long axis in an inward direction. Its malleolus is disproportionately larger, and this increase in size is in a downward direction, so that its lower border rests against that portion of the upwardly displaced scaphoid, which in the normal foot lies immediately under the skin, and forms a portion of the inner border of the foot. This approximation, in this specimen, led to the development of an articular facet at the points of contact of the two bones.

The fibula likewise presents some changes worthy our attention. It also, like the tibia, is rotated somewhat inwardly, being carried in that direction by the tibia. The malleolus is relatively small or less prominent than in the healthy foot. Its posterior border rests firmly against the os calcis at a point just above and anterior to its tuberosity. (Fig. 2.)

The astragalus, as far as can be ascertained without severing all of its attachments, presents alterations both in shape and position. The altered position of the os calcis necessarily displaces both the cuboid and astragalus in their relations to the former. In the case of the astragalus, a greater or less portion of the surfaces intended for articulation with the tibia and fibula are crowded forward, the capsule of the

FIG. II.—Twice normal size.



PLANTAR SURFACE.

- 1—Os Calcis 2—Tendo-Achillis. 3—Flexor Longus Pollicis (displaced). 4—Tibialis Posticus.
 5—Flexor Longus Digitorum. 6—Tibia. 7—Tibialis Anticus. 8—Fibula. 9—Internal Cuneiform.
 10—Cuboid. 11—Fifth Metatarsal Bone. 12—Middle Cuneiform bone. 13—Scaphoid.

ankle-joint is put upon the stretch, and the bone, in the foot prior to dissection, was found lying directly under the integument and tense capsular ligament, upon the dorsum of the foot. This tilting obliquely forwards of the astragalus is due to the almost vertical position of the os calcis, upon which it rests, and the dragging downwards of its body by the tension of the external calcaneo-astragaloid ligament.

Some deviations in form, as well as position, are also apparent in the astragalus of this specimen. The neck and articulating surface of the head, instead of being placed looking directly anteriorly for articulation with the scaphoid, are inclined toward the outer border of the foot. The superior, as well as the lateral articulating surfaces, in order that they may enter into the composition of the ankle-joint, are prolonged somewhat backwards upon a horizontal plane, while the original portion intended for such articulation is directed forwards and downwards. Its external articular facet is increased in its vertical width, while its internal articular facet is diminished in size. The superior articular surface is nearly normal. Continuous with the internal articular facet is an articular surface which articulates with the posterior border of the scaphoid. The entire bone is rotated upon its antero-posterior axis by traction upon it through the external calcaneo-astragaloid ligament in such a manner that its superior border is almost vertically placed. That portion of the head and neck which normally articulates with the scaphoid presents upon the dorsal surface of the foot, and inclines the head of the bone somewhat toward the inner malleolus. I have not been able to demonstrate in this specimen that marked angular projection inwards of the head and neck of the astragalus described by Mr. Adams.

The scaphoid bone, it may be observed, in consequence, presumably, of the traction exerted upon it by the attachment of the tibialis posticus muscle and the loss of the support afforded it by the head of the astragalus in the normal foot, is displaced laterally and superiorly. The upward displacement brings its upper portion in contact with the lateral articular surface of the astragalus, this being due to the altered position of the neck and head of the astragalus, with which it normally articulates. This "quarter of a turn," or transverse rotation and its cause, are easily understood when the vertical position of the astragalus, as a whole, is considered.

The cuboid, cuneiform, and metatarsal bones present no appreciable deviations from their normal forms or relative positions. This, in the case of the cuboid at least, is in marked contrast with the condition as revealed by dissection of a case of talipes varus later, in which the child has been allowed to walk upon the distorted foot, as in a case upon which I performed excision of the cuboid in both feet, at St.

Mary's Hospital, a few months ago. Here, from being compelled to bear the weight of the child in progression, the cuboid in each foot was very considerably altered, both in form and position. It was displaced in a lateral direction, and, following the distortion of the scaphoid inwards and upwards, rested against the *sustentaculum tali* of the os calcis, with which it had formed a new articulation, with well marked facets. A rotation of the bone backwards, inwards and upwards had also taken place, the effect of which was to cause the dorsal aspect of the bone to look almost directly downwards; "turned upside down," to use a homely phrase. Over this latter a thick mass of callous had developed. My object in calling attention to these facts at this time is to impress the fact that the most serious complications, involving alterations in the osseous structures, ensue upon a neglect of these cases, until finally nothing short of a complete removal of the offending bone will safely and satisfactorily restore the foot to a useful state.

As for the ligaments, it may be stated that, with the exception of the strong external calcaneo-astragaloid, these structures will yield in almost any direction. Their deviations from the normal are quite constant, and depend upon the mal-position or altered relations which the articulations they seem to bind together undergo. It is also a patent fact that as these ligaments increase in strength with the growth of the child, the difficulties in the way of restoring the foot become greater. True, it may happen that the influences determining the deformity may be exerted early in foetal life, and the distortion be an old one, relatively, when the child is born. Here the ligamental bands hold the bones as firmly together as if they held their normal relations to each other. The cases of talipes which at birth will not allow of ready reduction belong to this class; fortunately, however, they are of rather infrequent occurrence. In the majority of even those cases, which, judging by the amount of distortion alone, would be considered as severe, there is found at birth, when the foot is grasped and the attempt made to restore the same, to be but slight ligamentous rigidity; the misshapen and distorted bones, particularly the astragalus, being almost entirely responsible for the deformity. The external calcaneo-astragaloid ligament appears to be particularly at fault, for it is evident that the lateral obliquity of the astragalus depends for its existence upon the force exerted through this structure, which tends to compel this bone to follow a similar distortion of the os calcis.

Referring now to the second specimen, it will be observed that all of the tendons passing over the front of the ankle-joint are more or less displaced in adapting themselves to the altered position or the bones of the foot. It is needless to say that the disturbed relations of these tendons to the bones and to each other are in proportion to the

degree of the deformity. The annular ligament is dragged towards the inner side of the foot by the tendon of the *tibialis anticus*, the latter in this specimen being very considerably displaced; although not to the extreme degree described by Mr. Adams. Tenotomy of the tendon, by the subcutaneous method, in this degree of deformity, would be attended with some difficulties, owing to the altered direction and relations of the tendon. (Fig. 3.)

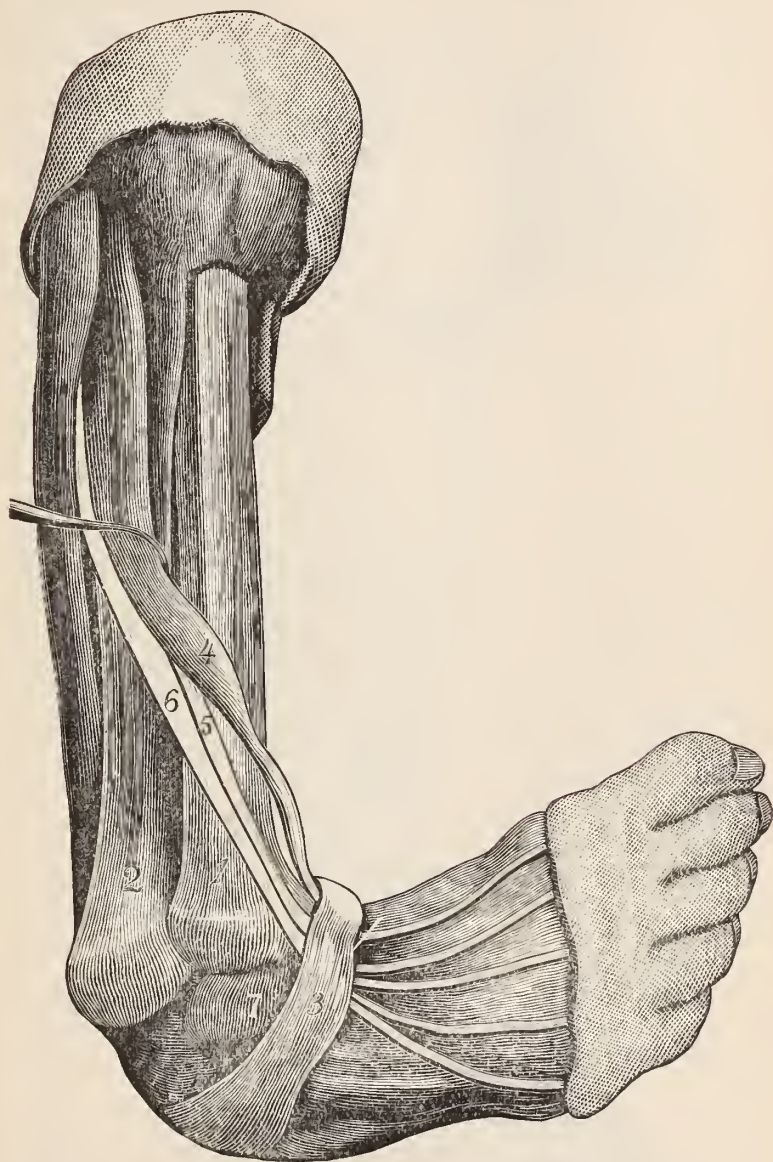
The *tibialis posticus* muscle, by its firm contraction lifts up the scaphoid, which, as before stated, having lost its support from the absence of the head and neck of the astragalus in their proper relation to it, is thus easily displaced. In addition to this, the tendon, through the fibrous expansion which passes to the *os calcis* at its anterior portion, assists in approximating the tuberosity of that bone to the fibula, the verticle rotation before referred to.

Referring to this dissection showing the course and termination of the tendon of the *tibialis posticus* muscle, it will be observed that there exists no well marked deviation from the normal, excepting that the tendon hugs the lower extremity of the malleolus more closely, and consequently is more strongly curved in its descent to the scaphoid, to which it is attached by but a narrow slip of tendinous expansion, the greater portion of the termination of the tendon being secured to the internal cuneiform bone. In its passage to the abnormally elevated scaphoid and internal cuneiform bones, it is necessarily materially shortened, as compared with the normal tendon.

The *tendo-Achillis*, as viewed from behind, in the second specimen, will be found to deviate palpably from its normal course in relation to the long axis of the leg, and the malleoli. As it approaches its point of insertion into the tuberosity of the *os calcis* it is more and more inclined towards the fibular aspect of the leg, and consequently the space between its inner border and the internal malleolus is materially increased, while that between the outer border and the external malleolus is narrowed. The widening of the space between the inner malleolus and the inner border of the tendon is somewhat increased, apparently, by the lessened prominence of the malleolus itself. This lessened prominence, as before explained, is due to the rotation of the tibia and the tendency of the inner malleolus to be thrown relatively forward. One practical point to be observed in this deviation of the *tendo-Achillis* toward the fibular side and away from the tibial aspect of the leg, is the diminished danger of wounding the posterior tibial artery in performing tenotomy of this tendon.

The morbid anatomy of congenital talipes varus as it is found in the infant at birth, and which is demonstrated by means of these specimens, differs somewhat from the description given by Mr. Adams, who

FIG. III.—Twice normal size.



DORSUM OF FOOT.

- 1—Tibia. 2—Fibula. 3—Annular Ligament. 4—Tibialis Anticus. 5—Extensor Proprius Pollicis. 6—Extensor Communis. 7—Astragalus.

was the first to demonstrate that the teachings of Scarpa, who argued that club-foot is simply a displacement of bones which in foetal life had been first well formed, and subsequently displaced by muscular action, or some other agency, was radically wrong. The altered shape of the astragalus is sufficient to attest this, to say nothing of the altered relations of the ligamentous and tendonous structures.

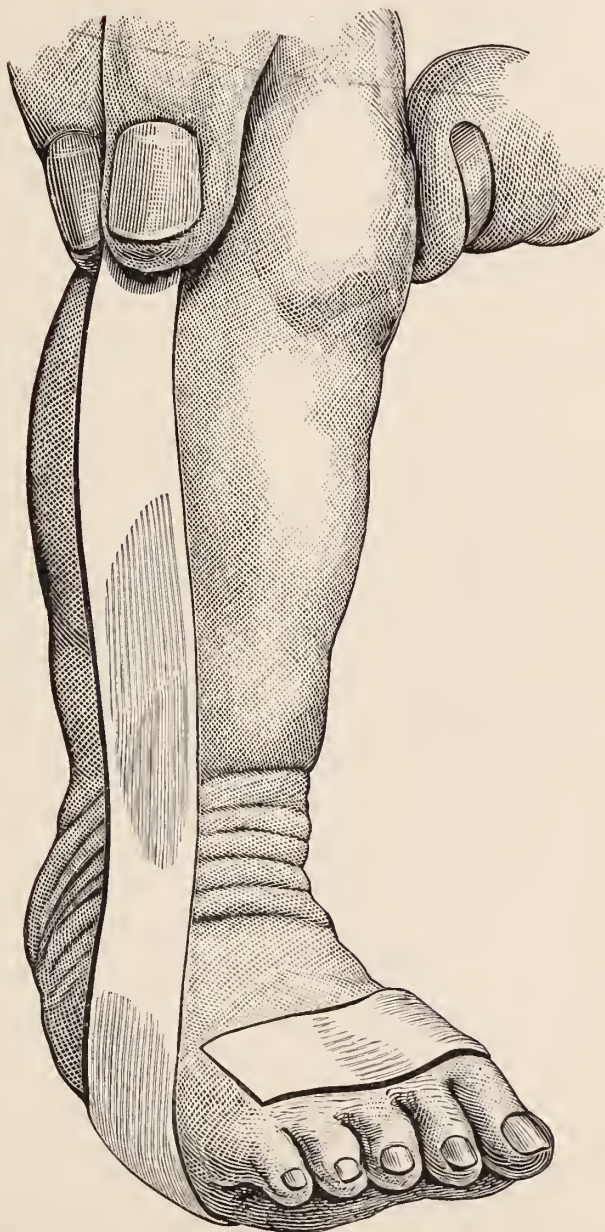
As to the mechanism of the production of this series of changes in the structures of the foot and their relations, I have nothing to offer, except that it would seem from the relative positions of the os calcis and astragalus to each other, that the latter depended somewhat for its mal-position upon the influences exerted upon it by the tension of the external calcaneo-astragaloid ligament; and that this, in its turn, is dependent upon the outward rotation of the os calcis.

With these facts before us, impressing us with all the force of a positive demonstration, it is easy to realize the importance of early interference in the class of cases under consideration. The anatomical departures in the astragalus render varus the most difficult of all the varieties of club-foot to treat at any time, and this deformity becomes more rapidly intractable in the first few weeks of the child's life than many are aware of or realize. Nevertheless, it will be generally found that those bones altered in position only, can be restored, and even the astragalus, changed as it is in form, can be made to adapt its shape to the relative positions of the other osseous structures when the new order of things,—the normal shape, is accomplished by early treatment. This "moulding" process, begun at birth and steadily persevered in, will cause the ligamentous and osseous structures to yield; later on, when these become more dense and unyielding, a much greater degree of force will be found requisite to accomplish the same result.

Treatment.—As soon as practicable after birth, preferably within the first few hours, an attempt should be made to restore and retain in the normal position, the disturbed foot. Sayre advises that the nurse or attendant should be taught how to place the foot in position and then hold it for as long a time as possible, pending the application of some retentive dressing. This is sound teaching, theoretically, but practically not much benefit is derived from it, inasmuch as the nurse soon tires and relaxes her grasp, and finally abandons the attempt altogether.

Some years ago I was called to attend a child born with talipes varus, and then and there applied a dressing of the common perforated plaster made of a rubber and gum compound, and sold as a sovereign remedy for all the pains from which mankind ever suffered. I refer to the "porous plaster" of the shops. To my mind, it possessed a quality needful for my purpose, namely, that of adhering with the

FIG. IV.



Method of applying Adhesive Plaster.

greatest possible tenacity; the perforations were not objectionable, but rather advantageous. A strip of this plaster about an inch wide was wrapped around the foot anteriorly to the middle tarsal joint and then brought up the fibular side of the leg to a point above the knee, and then held by the nurse while I bandaged the foot and leg with a flannel roller. (Fig. 4.) The outcome of this case was a most rapidly brilliant recovery, but I have hesitated to claim any priority in this practical method. I continued to use this method with success, until the brochure of Prof. Ogston, of Aberdeen, appeared, when I added a plaster-of-Paris dressing to my adhesive plaster retention dressing, and at once developed most practical, simple and efficient method for the immediate treatment of congenital club-foot. My method differs in several important particulars from that described by Prof. Ogston. In the latter the foot is held in position by an assistant while a plaster-of-Paris bandage is applied and hardens. In my method, the adhesive plaster, wrapped first around the restored foot and then carried up the outer side of the leg, holds the foot in good position while the plaster-of-Paris hardens.

Careful watching of the little toes will give ample warning of any strangulation, and enables the surgeon to avoid any such unpleasant sequences to the treatment as gangrenous ulceration of the little foot from pressure. In only one instance has this occurred in my practice, and in that case it resulted from a failure on the part of the parents to bring the patient to my office upon the day appointed. I make it a point to see the patient every day for three days; if nothing untoward occurs, and the nurse is sufficiently careful of the baby to prevent it from soiling the dressings with urine, etc., they may be left *in situ* for ten days from the time of application. They are then removed, the integument of the leg and foot bathed with spirits and water, the muscles kneaded and shampooed, and another dressing applied.

Adhesive plaster, of almost precisely the same composition as that which proved so useful to me in the case above referred to is now regularly sold under the name of American surgeons rubber adhesive plaster.

Each time the foot is redressed, it will be found to be more readily retained in its normal position, and tenotomy, other than that of the tendo-Achillis *after* the anterior portion of the foot is restored, to overcome whatever vertical displacement of the os calcis remains, will rarely be called for.

Another practical enquiry in connection with this subject is that of the performance of tenotomy. In what class of cases should tenotomy be done, what tendons should be divided, how should this little operation be performed, and in what order should the different tendons be attacked. There can be no question of the necessity; in certain instances, particularly those in which treatment has been delayed, of assisting

the treatment by dividing obstinate structures which obviously stand in the way of a correction of the deformity. It is not my purpose in these general observations upon the management of talipes, to lay down rules applicable to all varieties of the deformity, but I do wish to enter my protest against the common practice of cutting the tendo-Achillis the very first thing in the treatment. Nothing can be more unscientific, and nothing can stand so much in the way of successfully treating the varus and valgus cases particularly, as this practice. The medical attendant, grasping the foot and attempting to rotate and reduce it to its normal position is struck by the fact that the tendo-Achillis is tense and firm, and is apparently the only barrier in the way of a complete reduction. But, if it is borne in mind that the distortion in the last mentioned varieties of the deformity is located at Chopart's joint, and that the condition of the tendo-Achillis is of comparatively slight importance, when the fact is taken into consideration that this very action of the gastrocnemius and soleus muscles serve as a means of steadying the posterior portion of the foot, and enables the surgeon to more satisfactorily correct the deformity as it exists at the medio-tarsal junction. In other words, if the tendo-Achillis is left intact the force applied to reduce the varus will act at the point of least resistance, namely, at Chopart's joint. On the other hand, if this tendon be divided, although an apparently brilliant restoration of the foot has been accomplished, it will be found that this has been done, not by unfolding the foot at the site of the deformity, but, in a great measure at least, by a lateral deviation of the entire foot in its relation to the tibia and fibula. As the treatment progresses the tendon becomes reunited, the os calcis becomes fixed and the deformity, as it originally existed, returns. But very little, if anything will have been accomplished, and the varus becomes as pronounced as at first, and far more likely to become permanent; for valuable time will have been lost, and the deviation in form of the other bones of the tarsus, particularly those of the astragalus, become almost unalterable.

This point, the late division of the tendo-Achillis, in cases where it is required at all in talipes varus, is mentioned by Mr. Adams in his essay upon club-foot. I have thought that the reasons given by Mr. Adams have not been insisted upon with sufficient positiveness, and in the light of considerable experience in both methods, I have no hesitation in adding my voice in advocacy of this method.

The division of the plantar fascia will very seldom become necessary, in fact it is far less frequently demanded than any other cutting operation for varus. Except in those rare cases in which there is an intractable shortening of the foot and a decidedly increased convexity of the tarsus, the contraction of the plantar fascia will not be found to

stand in the way of a reduction of the varus. It is therefore obvious that the division of this fascia, if performed at all, should form an intermediate period between the correction of the deformity as it exists in the anterior portion of the foot by the means already detailed, with or without tenotomy of the tibial tendons, and the final release of the os calcis by division of the common tendon of the gastrocnemius and soleus muscles. Another point to be borne in mind, as Mr. Adams has likewise pointed out, is the assistance to be obtained from the fixing of the os calcis by the tendo-Achillis while the anterior portion of the foot is lifted up in the attempt to stretch the plantar fascia, and thus overcome the hyper-convexity of the tarsus, to which, together with the vertical tendency of the os calcis and a consequent dropping downward of its anterior surface, the equinus element of one of the commonest variety of club-foot owes its existence. The tendo-Achillis once divided, and no other way remains to overcome any shortening of the plantar fascia save that of making clinch pressure downward upon the convex portion of the arch—the most prominent portion of the dorsum of the foot. Here the skin is drawn tightly over the bone, and pressure is but illy borne. Should the plantar fascia be divided at this stage, it will, in the great majority of cases, be found impracticable to keep the divided ends sufficiently apart to prevent their reunion by any amount of pressure brought to bear upon the tarsal convexity. On the other hand, with the os calcis fixed and immovable, although in a mal-position, strong upward traction of the metatarsal portion of the foot will put this fascia upon the stretch, and, in case of its division, widely separate its cut edges.

The method of performing tenotomy should secure some consideration. Inasmuch as the antiseptic treatment of wounds enables us to convert open incisions into what are as safe, and in fact are essentially subcutaneous ones, so far as our purposes are concerned, there can no longer exist any excuse for a blind groping about under the skin for a tendon or fascia, which may be so far displaced as to render the finding of it problematical, to say nothing of the very great improbability of dividing all of its structures when found. I prefer, by far, to make all tenotomies except that of the tendo-Achillis by open incision, working up the tendon with a blunt hook and systematically dividing it, and having the aid of the visual organs to ensure its complete division. The little wound is at once closed with catgut, a light antiseptic dressing applied, and the foot restored as nearly as possible to its normal position and dressed with the adhesive plaster and plaster-of-Paris dressing. It has not been my habit to delay complete restoration for two or three days, as advised by Mr. Adams, and I have never had occasion to regret differing from him upon this point. When the foot

is again redressed, the little wounds will be found to have healed kindly, and the deformity thereafter continues to progress to a cure.

A word as to the effect of the rotation of the tibia before alluded to. I have found one of the most troublesome conditions existing after the correction of the deformity proper as it exists in the foot, is that known commonly as "parrot-toed," or inversion of the foot. In one case of this kind I was almost tempted to perform an osteotomy of the tibia to correct this troublesome distortion. The eversion shoe of Sayre is designed to obviate this, but, inasmuch as the rotation of the leg as a whole is the cause of the deformity, I have found this to be practically of but little value. Gregory, of Syracuse, devised an apparatus to secure eversion of the entire lower extremity. This is better than Sayre's shoe for this purpose, but it labors under the disadvantage of rotating both leg and thigh, while on the other hand the shoe of Sayre rotates too little. Both instruments are expensive, this being likewise an objection. The method herewith proposed, namely, that of osteotomy of the shaft of the tibia, will attack the site of the malformation, and, in the light of considerable experience in osteotomy for tibial curves, I should judge this method to be practically safe, and therefore to be recommended.

W. M. THALLON,
Secretary.

REMARKS ON THE TREATMENT OF LYMPHADENITIS.

BY H. W. RAND, M.D.

Read before the Brooklyn Surgical Society February 2, 1888.

It is a well known fact in medicine and surgery, that the less control we have over abnormal conditions the greater the number of remedies proposed for the relief of such conditions. The advocates of this or of that mode of treatment claim success as the rule, while their followers meet with such good results only in exceptional cases. This arises, in part at least, from the tendency on the one hand, to forget or undervalue the "*vis medicatrix naturae*," and, on the other, from the lack of an intelligent appreciation of the special indications for the use of such remedies. We remove all sources of irritation, place an inflamed part at rest, and prescribe a remedy. The average patient, if he promptly recovers, attributes his recovery to the medicinal treatment, and the attending surgeon is only too apt to accept this view. Whereas, the fulfillment of the first two indications may have been the chief factors in bringing about the desired result.

But neither as surgeons nor physicians will we ever be able to rate medicinal agents at their exact value. We can, however, become more familiar with the indications for, and the contra-indications to, their use.

In looking over the literature of lymphadenitis it would seem that, while the modes of treatment were numerous, the indications for the use of certain remedies, and for certain operative procedures might be more clearly defined.

The larger number of cases of this disease coming under the observation of the surgeon are of venereal origin, and while my remarks are intended to apply especially to this class, they will be more or less applicable to glandular inflammation from any cause. I shall, however, exclude syphilitic bubo, except in so far as the term suppurating bubo includes those cases in which the syphilitic form terminates in this way.

The treatment of lymphadenitis embraces both constitutional and local measures. The diathesis of the patient has more influence in determining the size of the glandular swelling and its tendency to assume the chronic form, than has the exciting cause of the inflammation. Yet the constitutional treatment, in acute cases at least, has far less influence upon the course of the bubo, than has the treatment of the lesion producing it. The action of remedies is so slow in relieving diathetic conditions that but little can be gained in this way except in the more indolent forms of bubo. Here of course, good hygiene, alteratives, and tonics are valuable adjuvants to local treatment.

Sulphide of calcium has been favorably reported upon in inflammatory bubo. I have tried it in a number of cases, in both small and large doses, and have never been convinced that it is of any value whatever in glandular inflammation proper; but where there is considerable peri-adenitis it has seemed to me to be useful.

The local treatment will include in the first place, attention to the lesion causing the glandular swelling. The more rapidly this can be removed, the more rapidly will we control the resulting inflammation.

The chances of a satisfactory recovery, however, depend chiefly upon the local treatment of the inflamed gland. Perhaps the most popular local remedy with the profession and the laity is tincture of iodine, a useful drug in its place, but a much abused one. It is recommended by good authorities in all forms of glandular swelling, without much regard to the local conditions present. As a result of considerable experience with it, and with ointments containing iodine and iodide of potassium, I believe iodine to be, in any form, not only useless, but absolutely injurious in all acute cases, and especially so in those attended with much peri-adenitis. In chronic cases, where there is

simply a small indolent tumor with but little tendency to suppuration, it is a useful local remedy ; but, where much enlargement exists, it is a waste of time to depend upon it when we have more efficient agents at hand.

It is claimed that the application of blisters will avert suppuration in some cases. In my own experience they have never been productive of good at all commensurate with the pain and inconvenience they cause. In cases so mild as to be apparently benefited by them, the disease will, I believe, be as readily controlled by much more agreeable measures.

But without further criticising treatment that cannot be fully endorsed, let me say something of that upon which I have learned to rely with more confidence. There can be no difference of opinion as to the value of rest during acute inflammatory processes. In acute inflammation of the inguinal glands, rest in bed, one of the most important factors in its treatment, cannot always be enforced. Many patients, while the disease is of moderate severity, prefer to take considerable risk rather than give up business. For such patients any application that will tend to repress peri-glandular inflammation, even if it has no influence on the adenitis itself, is useful. For this purpose an oleate of atropine and mercury is one of the most convenient and effective. I generally order a drachm and a half of a two per cent. oleate of atropine combined with a half drachm of a two per cent. oleate of mercury. A small amount of this is lightly applied three or four times a day, but no friction should be used. It is well to caution the patient who is using atropine in this way, although it does not usually produce any constitutional effect.

If, however, in spite of such measures the symptoms increase, absolute rest should be insisted upon. Here, the treatment proposed some years ago by Dr. M. K. Taylor, U. S. A., is the most apt to avert suppuration and bring the case to a favorable issue. This, while not so widely applicable, nor, in my own experience, so efficient as it is claimed to be by the author, is yet the most effective abortive treatment with which I am familiar, and does not appear to have met with the attention it deserves.

Dr. Taylor advises injections of a solution of carbolic acid, varying in strength from four to sixteen grains to the ounce of distilled water. Eight to ten grains he considers the best strength for ordinary use as an abortive. Ten to thirty minims, according to the size of the tumor, are to be injected, and the operation repeated after several days, if required. The use of the injection is to be followed by constant pressure. It might be argued that compression, a time-honored treatment, was the effectual agent, but a little experience soon convinces one that the injection is the more efficient of the two.

It has been stated that these injections are more apt to prove effective when administered just prior to suppuration, "the gland at this time being more readily permeated with the fluid." Aside from the danger of waiting too long in seeking to determine such a period, this would seem for other reasons an unwise rule to adopt. The success of the treatment depends upon the injection entering the gland, and not the surrounding tissue. The nearer the suppurative stage the greater the peri-adenitis, as a rule, and the greater the difficulty in locating the individual glands; in some cases this becomes impossible. Again, in acute bubo, suppuration occurs most frequently, at first, in the surrounding cellular tissue, and it has seemed to me that the entrance of even a few drops of the solution into this inflamed tissue precipitates the very thing the treatment was intended to avert. If, then, an injection is to be used at all, it should be given as soon as the surgeon is reasonably certain that milder measures will fail to control the inflammation.

Taylor advises that the injection be thrown into the centre of the gland. I prefer to introduce the needle through the long axis of the gland, until the point is within a quarter of an inch, or less, of the opposite extremity, and then to throw in the injection drop by drop, while slowly withdrawing the needle. In this way the fluid is more evenly distributed and less apt to ooze out. When more than one gland is to be injected, it is well to do so through a single puncture in the skin, when practicable. Thorough disinfection of the integument at the seat of puncture, and an aseptic needle are essential to success. For the full particulars of this mode of treatment, I would refer you to Dr. Taylor's article in the *American Journal of Medical Sciences*, 1882,

What is the best procedure when suppuration occurs? There is no rule applicable alike to all cases. Opening such an abscess by an incision and trusting to Providence and injections for recovery is, as we all know, tedious and uncertain. Aspiration, washing out the cavity with a four or five per cent. solution of carbolic acid, and subsequent compression, has been recommended as highly successful, but no special indications have been given us for the operation. Where there are several points of suppuration, as is frequently the case, or where the glands have undergone caseous degeneration, any attempt at aspiration is useless. It can only fail, also, in those cases of bubo consisting of several more or less disorganized glands, with suppuration of the surrounding cellular tissue. I have, however, occasionally succeeded with this operation in cases of suppurative peri-adenitis, when the glands themselves had not passed the stage where resolution was possible, and the pus was laudable and contained in a single cavity. Rest in bed, and firm and equable compression for some time after the

operation are necessary. I have tried both a four per cent. solution of carbolic acid and a ten per cent. solution of iodoform in ether for washing out the abscess cavity, and much prefer the acid.

When the bubo shows no signs of resolution after rest, injections, and pressure have been tried for a couple of weeks, but remains enlarged and painful, when one or more glands have suppurated or undergone caseous degeneration, whether or not associated with periglandular abscess, or when, as occurs in neglected cases, several fistulous tracts exist, and the surrounding skin is red or purplish and more or less undermined, more radical measures are called for. In some of the cases we can advantageously combine the injection of carbolic acid solution with operation, as I have recently done in two strumous subjects, with suppurating bubo. In each of these cases there was a single point of suppuration apparently originating in a gland, and containing about two drachms of pus and broken down tissue. The entire bubo, however, in each patient practically filled up the groin, and any attempt at complete removal would have been unwarrantable. The treatment adopted was the following: The abscess in each bubo was freely opened, its cavity curetted and packed with lint saturated with balsam of Peru, containing two grains of nitrate of silver to each ounce. The surrounding mass was then slowly injected with thirty minims of a two per cent. solution of carbolic acid. The injection was repeated every five days, a different portion of the tumor being selected at each operation. This, with compression by means of a sand bag, frequent removal of the dressing to the abscess cavity, and the administration of syrup of the iodide of iron constituted the treatment. Unfortunately, no record was kept of the time these patients were under observation, but their recovery was far more rapid than I have ever seen in similar cases under other methods.

When the extent of a bubo does not prevent its complete removal, with a reasonable chance of obtaining primary union, we have in this operation a means of rapid cure. The operation, however, has its limitations. In the first place, it should not be attempted until the exciting lesion has well advanced towards recovery. Especially is this true of the bubo of chancroid. The deep inguinal glands should not be interfered with, unless it is certain that suppuration has occurred in one or more of them. I believe, however, that these glands are rarely involved to this extent. Where so much tissue is diseased that its complete removal does not permit easy coaptation of the edges of the wound, the attempt to get primary union will fail; for tension of the flaps has seemed to me to be especially fatal to primary union in such wounds of the groin. In the case, therefore, of a suppurating bubo of considerable size, with much involvement of the skin, perforation not

having occurred, it is better to evacuate the pus by a free incision, and wait for a few days until the more active inflammatory symptoms subside, before determining the best course to pursue. Strict antisepsis should, of course, be observed meanwhile. In this way the extent of the subsequent operation is somewhat diminished, and the chances of success are increased.

In the cases upon which I have operated with the view of obtaining primary union, I have secured the best results by observing the following precautions, in addition to other surgical rules that govern similar procedures. The patient's bowels should be thoroughly evacuated just prior to operation, and kept confined for three or four days thereafter by an opiate if necessary. All glands that show any signs of enlargement should be removed. It is not necessary to enucleate healthy glands, if the patient has so far recovered from his original lesion that they are not in danger of becoming involved subsequently to the operation. All indurated tissue should be excised. The deeper parts of the wound should be first approximated with catgut sutures, so introduced as to include the edges and bottom of the wound, but not the integument. For this purpose, a full curved needle with a rounded point is preferable. The skin should be approximated subsequently with superficial sutures. If a drain is necessary, horse-hair should be used in preference to a tube, unless the wound is extensive. After the dressing, compress and bandage are applied, the thigh should be semi-flexed by means of pillows beneath the knee, and the patient kept in this position, as far as possible, for three or four days.

When, from the existence of unfavorable conditions, only partial union can be hoped for, it is better to attempt to secure even this than to have the entire cavity heal by granulation. It is sometimes, however, astonishing how rapidly these large cavities will fill up when once all diseased tissue is removed.

In cases where no primary union whatever can be expected, and the wound must be left to heal entirely by granulation, it is not necessary to remove all indurated cellular tissue; but all superficial glands that are perceptibly involved should be enucleated. In the after-treatment of these cases, it would be hard for any one to name the best local application. When a marked stimulating effect is desired, salicylic acid, naphthalin, and balsam of Peru with nitrate of silver, are more effective than iodoform. Equal parts of salicylic acid and iodoform make an excellent application in some cases requiring moderate stimulation.

In regard to virulent bubo, it seems to me to be growing less and less frequent, probably due to the fact that typical chancroids are less numerous than they were some years ago. At least such is my own

observation, both in hospital and private practice. This fact I would explain on the ground that patients have a better knowledge of the treatment of venereal sores than formerly, and, instead of repeatedly irritating them with nitrate of silver and other caustic applications, dress them with iodoform. When, however, a bubo proves virulent, I know of no better treatment than thorough cauterization of the resulting sore, and the usual after-dressings. Certainly no other operative treatment ought to be undertaken until the bubo has entirely lost its specific character, for fear of fresh infection.

I have never seen any good results from injection of syphilitic buboes, and I should not deem it wise to attempt anything more in the way of operation than a free incision into such glands as may suppurate, and a thorough removal of all disorganized glandular tissue. If, however, such a bubo remains sufficiently large to cause pain and inconvenience after the patient has been for some time fully under the influence of specific treatment, as will occasionally happen in a strumous subject, the case should be dealt with as if the bubo were simple, and all indurated glands removed.

DISCUSSION.

DR. FOWLER: I have never had any brilliant experience in the abortive treatment of bubo or lymphadenitis. I sometimes have used applications of belladonna and oleate of atropine and morphine, to somewhat lessen the pain, but beyond that I have not succeeded in aborting their further progress.

In the matter of the operative treatment of lymphadenitis I think that just as soon as evidences of softening occur that no better procedure can be instituted than laying open the whole glandular structure freely, in so far as it is soft and breaking down, and thoroughly curetting with the sharp spoon of Volkmann, and thoroughly cleaning the cavity and introducing a drain. I have tried to get primary union of the walls of the cavity and not succeeded; the tension being so great that it is almost impossible to get the edges of the wound in apposition, and this prevents primary union. I have attempted in two cases to get healing through the organization of blood clot filling in the cavity, after Schede, but the extreme difficulties of thoroughly disinfecting a cavity of that sort that has been filled by the broken down tissue the result of the inflammatory process, are such as to have rendered futile any such attempt.

I can endorse what the doctor says about the inefficacy of iodine; it never did any good and I have thought it increased the peri-glandular inflammatory action and increased suppuration of the structures about the gland.

DR. BOGART : I have not anything special to add, Mr. Chairman, but it has occurred to me to ask whether the treatment of Heitzman for self-circumscribed inflammations of the cellular tissue, such as boils, etc., by the use of oil and salicylic acid might not be useful in this instance. He recommended five parts of salicylic acid to the ounce, smoothing it over the surface two or three times. I have tried that treatment in a number of cases, not where they were very large, but one case I remember of a child who was almost covered with them from head to foot, and I found it very useful after trying sulphide of calcium and other remedies without success. I have never tried it in buboes, but I thought possibly it might have some effect there.

DR. LEWIS : The difficulty that I have found in a great many cases has been to get patients to submit to any kind of surgical interference until they get open sinuses, which are indolent and do not heal, and after a while when they find that they do not heal well they will at last submit to operative interference, and in those cases the result of cleaning out the whole cavity and removing all the diseased tissue and closing it up, has been very good.

DR. WIGHT : There are two points that seem to me to be of very considerable importance in connection with these inflammatory enlargements :

1st : As to the special irritant. So far as my observation has gone in almost all instances of inflammation of these glands it has seemed to me that there has been a specific irritant of some kind. Almost always I am impressed, though I have no proof of the fact, that there is or must be some microbic origin for this inflammation, or that the special irritant is some form of microbe. I think these inflammatory enlargements present to the mind of the surgeon one of the best examples of that kind of irritant that I know of. Now I do not deny that there may be inflammation from ordinary irritants ; that there may be some development in the gland itself, some waste material that may produce irritation, or that there may be absorbed from some source or other a special chemical or non-microbic irritant that would produce inflammation of these glands. So much for the etiology ; a great deal might be said more to the point but I will simply call your attention to this fact.

2d : There is a view which has often occurred to me and on which I have based practical working in this respect. There is no doubt in my mind that we not infrequently at the outset have something akin to diffuse inflammatory conditions without that tendency towards the formation of abscess, and that there is not infrequently the eventuation of that process in diffuse suppuration or purulent infiltration. In connection with these facts I have been in the habit of waiting until some-

thing like a wall of limiting infiltration is thrown around in the periglandular tissue to limit it, so that when I did cut I have no tissue that will take up this material and carry it with facility into the rest of the system; I always wait for that if I can; I find that the cure is greatly hastened if I do that; then I open as carefully as possible and thoroughly disinfect, but if there is a continued tendency to diffuse inflammation or purulent infiltration I then make liberal incisions with the idea of not only evacuating the blood, but all waste materials, and then thoroughly disinfect.

Another practical point which I have observed is that in all those cases carbolic acid should be applied locally and externally at the very outset; equal parts of carbolic acid and glycerine, the surgeon putting it on himself with a brush and leaving it on, and repeating it from time to time. There is something about carbolic acid that inhibits the proliferation of the microbes as well as the gland cells; I am entirely satisfied of that. I have also applied equal parts of glycerine and sulphurous acid with the greatest advantage.

I have for a long time rejected iodine in its ordinary form of the tincture, which I believe to be mischievous; but in the more chronic and some of the more indolent forms of lymphadenitis, I have found the iodide of potassium admirable when applied locally—a drachm of the iodide to ten drachms of the simple cerate and perhaps a little glycerine to soften it.

Dr. RAND.—I believe that is now the accepted theory as to the origin of buboes, the old idea of sympathetic irritation having been done away with. Observers claim that a germ produces these glandular inflammations; but they have not yet determined, with certainty, whether this germ is a special microbe. There are some cases in which its absorption causes only moderate inflammation, which will subside without treatment; there are other cases that recover with very little local treatment, and others again that suppurate and do badly no matter what you do for them. I have removed buboes in two cases in private practice, and in both obtained primary union. In several hospital cases, where the buboes were not much larger than a hickory nut, I have had primary union. In other cases the operation has failed or been only partially successful. I think it is not good practice to leave a bubo to open spontaneously; early incision is preferable.

Dr. PILCHER.—It seems to me, Mr. Chairman, if we accept the idea as to the etiology of these conditions which has been suggested by yourself and which has been hinted at by others—that they are the result of the arrest and proliferation of micro-organisms in these tissues,—that our treatment ought to resolve itself essentially into antiseptic treatment. The case is to be considered, then, in the light of

the general principle of sepsis and antiseptis. If this is the case, it strikes me there are three particular directions from which we might attack these swellings or tumors, with the probability of helping a cure.

The first is from the direction of the general constitutional resisting power of the individual himself; this goes without saying, but it includes a great deal of treatment, however.

The next is through the application of direct antiseptic agents. In this connection comes the local injection of strong antiseptic agents like solutions of carbolic acid. I have not had very many chancroidal buboes to treat recently, and never had much experience with them, but there are forms of septic glandular inflammation in which I have had most excellent results from the injection of pure carbolic acid—with about six per cent. of water, simply enough to liquify the crystals—an injection of from five to ten minims into the centre of the inflammatory mass, with possibly a repetition at another point, the necessity of a repetition being governed by the extent of the affected part.

As to the possible antiseptic value of external applications in these deep-seated glandular inflammations, I should view with some scepticism any assertions that they were of value; I should want it to be proven thoroughly and substantially.

In cases of inflammation of the skin to which Dr. Bogart has referred as being successfully treated by him with salicylic acid, the inflammation is a superficial thing; these inflammations have their origin in the depressions of the skin that open externally, and they are accessible to agents that are applied to the skin, but these deeper glandular affections are beyond the reach of any agents applied to the skin.

I should view with a great deal of scepticism the claim that any particular value is derivable from the agents which have been referred to so favorably by the writer of the paper—atropine and mercurial agents. The fact is that all patients want to have something done to them, some local application made, and whatever will soften the tissues and protect them and allay the swelling which is incident to the turgidity of the vessels, would give comfort and be of value from that point of view, but in regard to any special value from an antiseptic point of view I am very doubtful of there being any.

The next direction from which we can attack this disease antiseptically is by promoting the free evacuation, or the free escape of all the unhealthy fluids produced as the result of the local activity of the micro-organisms. There are present necrotic tissues and secretions more or less charged with acrid ptomaines, the latter being more important to be rid of than the simple dead tissue.

Now, as to the most important point of all—that of free and liberal incisions—I would take issue as to what has been said in regard to any possible value of delaying the incision until suppuration is fully established or fairly advanced, or until the gland had broken and discharged itself. It seems to me that from the antiseptic point of view, when we are convinced that agents which tend to promote the invigoration of the general constitutional power and to prevent suppuration—when we are convinced that these are of no avail and that suppuration and tissue necrosis must take place, then the sooner an incision is made the better. It is true patients will defer any operative procedure as long as possible, and will deprecate after confinement, but when we do operate, if we make our incision free enough, we can be very sure to have some control of them for a few days afterwards at least, and it has been my habit to make such a free incision. If the incision is made free enough, and if the disinfection is made thorough enough, there is little danger of a further involvement of the peri-glandular tissue; if further inflammatory extension does take place, it is simply a sign that the incision and disinfection have been too limited. After incision, the curette should be used to clear out indurated glands and necrotic tissue which has not already been liquified by suppuration, then copious irrigation with strong solutions of corrosive sublimate or carbolic acid should be done, and then adequate provision made for the free escape of all the secretions which will follow immediately after; by such a thorough process very rapid granulation and very rapid healing may be expected; and in these cases, after the first two or three days, decided advantage may be gained by applying the secondary suture and thus diminishing the length of time required for healing. If we can succeed in keeping the patient quiet for the first week, at the end of that week there should be nothing but a superficial sore remaining, while in some cases entire healing will have been accomplished.

Dr. FOWLER.—I did not mean that we should delay in opening these glands in inflammatory disease; I simply instanced two cases in which patients who refused to allow an early incision did not seem to suffer materially from their refusal, but I believe in the vast majority of cases that the best measure is the free incision.

I have dissected out a portion of the more superficial parts of the gland so as to leave a skin flap comparatively free from glandular structure which had become adherent by the inflammatory action; with a free incision, the dissecting of the superficial portion of the gland, the curetting out what remained and the thorough disinfection and irrigation of the cavity and filling with iodoform, to which has been added some naphthalin to stimulate the cavity, I have had exceedingly good results. I have never used the secondary suture, but

I can imagine if the incision is very extensive the length of time of healing would be shortened by that measure.

Dr. WIGHT.—There is one point connected with these remarks which I wish to call attention to. I would lay down this primary and general proposition: That a gland, small or large, is worth saving, if it can be saved. If this *inflammation* would compromise life, I would not make that statement, but they are all worth saving if possible in a reasonable way. I am satisfied that in a great many cases the inflammation may not be so extensive as to prevent the gland from being restored to use and function. If you take away that fact, I would say incise it and get primary union and destroy the gland; that is, provided the gland cannot be saved.

Dr. RAND.—I do not suppose any one will maintain that external applications can have any control over the special cause of the adenitis, or over the inflamed gland itself; but they will limit peri-glandular inflammation in the early stages in many cases.

WILLIAM M. THALLON,
Secretary.

CLINICAL NOTES ON PARALDEHYDE, AGARICINE, AND STROPHANTHUS.

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During the past year and a half I have made some clinical tests of paraldehyde, agaricine, and strophanthus. With the hope of eliciting further evidence for or against their clinical value, I venture to present a brief summary of results.

The cases selected are from the chest wards of St. Mary's Hospital, the Methodist Episcopal Hospital, and private practice.

I am indebted to Dr. B. F. Westbrook, with whom I am associated in both institutions, for permission to report cases occurring in our services.

PARALDEHYDE.

Paraldehyde is a polymeric modification of aldehyde. It is a colorless liquid having an ethereal odor. The taste is pungent and penetrating. It is soluble in eight parts of water. The dose ranges from

one-half to two and one-half drachms. The Italian physicians by whom it was introduced have quite accurately ascertained its physiological actions. Its effects are expended first upon the gray matter of the cerebrum, inducing sleep, then upon the medulla, and finally upon the spinal cord. After a lethal dose the functions of the medulla cease, but the respiratory function is abolished before the cardiac. The fact that it has absolutely no paralyzing or weakening effect upon the heart, in medicinal doses, is an important element in its therapeutic employment. Its soporific effect is not preceded by the stage of excitement which occurs with other remedies of the same class.

According to published reports, it has been used with success in the wakefulness of fevers and febrile diseases. It is more especially useful in mental and nervous affections attended with sleeplessness. In my experience, paraldehyde has acted efficiently and pleasantly in cases presenting the proper indications. These are very much the same as for chloral. Paraldehyde is an hypnotic, not an analgesic. For example: in three cases of simple insomnia due to worry and mental overwork, a refreshing sleep of from six to eight hours was induced without unpleasant after-effects, digestive or cerebral. A patient recovering from broncho-pneumonia, with weak heart and persistent sleeplessness, gained rapidly after two or three nights of sound sleep procured by this agent. The obstinate insomnia of chronic alcoholism yielded to the remedy in drachm doses repeated hourly.

On the other hand, when notable pain of inflammatory or neuralgic origin is present, paraldehyde will fail in securing slumber. In phthical cases, where sleep is prevented by an irritative cough, it alone is of no service. But if pain or irritability is relieved by suitable analgesic measures, this hypnotic will give good results.

As an example, I may say that, in the chest wards of St. Mary's, we have frequently procured sleep by paraldehyde after relieving the cough with small doses of morphia or codeia.

The advantage possessed by paraldehyde over chloral, which it closely resembles in its therapeutic properties, lies in the fact that it has absolutely no depressing effect upon the heart. It can therefore be used in adynamic states, when chloral is contra-indicated.

A practical point pertains to its administration. As already stated, its taste is pungent and penetrating. This to a certain extent constitutes a bar to its employment. It can be to a great degree overcome by combining it with an equal quantity of syrup of orange peel, and a drop of oil of cinnamon. This is to be taken in one or two ounces of water at the time of administration.

The minimum dose should be one drachm. This can be repeated at hourly intervals. In the majority of cases the single dose is efficient.

AGARICINE.

Agaricine is the name given to agaric acid obtained from the fungus *Agaricus albus*. It occurs in needle-shaped crystals. The dose ranges from one-twelfth to one-half grain. It has been recommended by sundry writers as an efficient remedy for abnormal sweating, especially in the perspirations of phthisis.

Agaricine given alone in pill or solution will frequently produce nausea, abdominal pain, and sometimes diarrhœa. It is therefore necessary to combine with it a minute dose of atropia, and either a carminative or an opium preparation, preferably Dover's powder.

This remedy, given in solution, was tested in the chest wards of St. Mary's, on five cases of phthisis, in various stages of the malady. The periods during which it was administered varied from five to fourteen days, in doses ranging from one-fifth to one-half grain. In only one instance did it stop the sweating. The relief lasted three days. The sweats then recurred, and were afterward controlled by ergot and quinine. In the other cases it did not check the sweats, and its only observable effect was to cause a greater or less degree of abdominal distress. After a fair trial, one is forced to conclude that agaricine is of very little value as a remedy for pathological sweating.

STROPHANTHUS.

Without attempting to collate the scattered reports relating to strophanthus, I propose to briefly summarize the pharmacology of this drug, and add thereto some personal experience in its use.

Strophanthus was put into the hands of the profession by Professor Fraser, of Edinburgh, after a thorough and apparently exhaustive investigation extending over several years. This work is a model of its kind. The preparations of the drug are derived from the seeds of *Strophanthus Hispidus*, Nat. Ord. *Apocynaceæ*. The plant is a native of the West Coast of Africa. The seeds pounded to a paste form the Kombi arrow-poison. The botanical relations of the plant are still uncertain, as several varieties have been imported from different parts of Africa.

The tincture made from the seeds with alcohol only, is of a green color. If the seeds are first treated with ether, a green fatty substance can be extracted. This substance possesses a sickening odor, and is absolutely inert. The tincture prepared from the seeds after removal of the fatty matter is of a light yellow color, and is eligible for use. The usual strength of the tincture, as recommended by Fraser, is one part of the seeds to twenty parts of alcohol, by weight.

According to Fraser's report, the active principle of strophanthus is a glucoside, strophanthin, to which the effects of the tincture are due.

Later observations render it probable either that the seeds contain more than one active principle, or that strophanthin is altered by age or chemical agents used in the process of preparation. Until the botany and chemistry of strophanthus have been more completely elucidated, an element of uncertainty in its therapeutic use will exist, owing to the varying power and qualities of different preparations. This fact doubtless explains some of the discrepant results obtained by clinicians.

The physiological action of strophanthus, according to Fraser, is expended principally upon the muscular apparatus of the heart. The original experiments apparently demonstrated that the contractile power of the cardiac muscle was increased and the systole lengthened, with a corresponding diminution in frequency of contraction.

According to the same authority it was shown that its effect in causing contraction of the arterioles was very slight. The rise in blood pressure which occurs after the administration of strophanthus must therefore depend upon the increased energy of the cardiac contractions. To the same cause, and not to any specific effect upon the secreting structures of the kidney, is attributed the diuretic effect of the drug. Another action of strophanthus, noted but not explained by Fraser, is a reduction of temperature.

The therapeutic uses of strophanthus can be easily deduced from its physiological actions. Cardiac adynamia or incompetence from any cause, degenerative, valvular, or functional, in which immediate strengthening of the cardiac systole is desired, should constitute indications for its use. In other words, where digitalis is of service, strophanthus should be also, with the further advantage that while digitalis contracts the arterioles and thus presumably adds something to the work of the heart, strophanthus has little if any effect on the musculature of the smaller arteries.

While the indications for strophanthus are apparently so obvious, there is a wide diversity of opinion in the published reports of clinical observers as to its performance in various diseased conditions.

I have tested it with some care in three classes of disease, pulmonary, cardiac, and renal. The preparation used was Merck's tincture. The dosage varied from three to fourteen minims at intervals of two, four, and six hours. Toxic symptoms as evidenced by epigastric burning, nausea, and vomiting were not noted, except the first mentioned to a slight degree. Apparently, gastric disturbance was not so liable to occur as with digitalis.

Fourteen phthisical patients in St. Mary's Hospital received strophanthus. With the exception of those suffering from the more advanced lesions, there was an improvement in the rapidity of the pulse, and especially in the subjective feelings of dyspnoea and muscu-

lar weakness. This can be satisfactorily explained only by the action of strophanthus in strengthening the heart's action, thus causing a more complete distribution of blood to the pulmonary capillaries with consequent improvement in oxygenation.

A case of chronic pneumonia admitted to the Methodist Episcopal Hospital, with an intercurrent attack of bronchitis, exhibited very plainly the effect of strophanthus on the pulse, as this tracing shows.

Functional irregularity of the heart, occurring in three cases, was very successfully controlled by strophanthus.

Two elderly patients, in whom the process of compensative hypertrophy was at a standstill with degenerative changes presumably occurring, were noticeably relieved by this drug.

In one instance of mitral stenosis occurring in a boy of twelve, attended with a rapid and small pulse, strophanthus acted very satisfactorily. I present a tracing showing the pulse curve noted at intervals of fifteen minutes after the ingestion of five minims of the drug.

In a case of chronic cardiac and renal disease, acute suppression of urine having supervened, it strengthened and regulated the pulse, but had no effect in promoting diuresis, death occurring in forty-eight hours.

An irregularly acting heart in a case of cirrhotic kidney, the pulse ranging over one hundred, was steadied and the pulse fell to ninety.

I present one more tracing taken from a case of low fever due to septic absorption. In this the pulse was noted every fifteen minutes after each dose.

In the chart from the case of mitral stenosis, it may be noted that there is a primary rise in the pulse-rate before the fall. This apparently points to a preliminary stimulant effect preceding the regulating and slowing action of the strophanthus.

It is not my intention to collate the many reports found in current literature. A fairly thorough comparison of results will show that while strophanthus has not realized the sanguine predictions of its earliest users, yet it may be regarded as a distinct addition to our therapeutic resources.

There are certain conclusions to which personal experience has led.

Compared with digitalis, strophanthus is rather a cardiac stimulant than a cardiac tonic, as its effects are more or less evanescent.

It has been effective in about two-thirds of the cases in which it has been administered.

It is more particularly adapted to pulmonary disease attended with cardiac weakness, to functional cardiac affections, and to degenerative conditions of the cardiac muscle. Among purely valvular lesions it is

especially useful in mitral stenosis. Hart, of Edinburgh, states that in mitral stenosis complicating pregnancy and labor it has given distinctly better results than digitalis.

Its diuretic action has not been sufficiently investigated to come to any conclusion.

In its therapeutic use, moderate doses frequently repeated will give better results than larger ones at longer intervals.

The botany, chemistry and physiological action of strophanthus need a thorough revision before its place can be definitely settled.

My thanks are due to Dr. J. B. Galavan, Dr. E. C. Mason and Dr. G. B. O'Sullivan, past and present House Physicians at St. Mary's Hospital, and to Dr. H. B. Delatour, Senior Interne at the Methodist Episcopal Hospital, for careful observation and recording of results.

DISCUSSION.

Dr. THALLON.—Mr. President, I would like to add to the Doctor's very interesting paper a few observations in the use of one of the drugs he has spoken of, namely, strophanthus.

The first case in which I used it was a case which Dr. Butler saw in consultation with me; a young lad of 16, the subject of a rickety chest and of some heart disease, which had not been carefully investigated. Coming home from business one evening, crossing the Bridge, he jumped on a truck horse and tried to ride over; the horse ran away from him, and the shock laid the boy up.

He came to me with a pulse of from 120 to 130; at the time Dr. Butler saw him I think his pulse was about 130. I thought I detected at the time a slight murmur, but was unable to locate it, owing to the feebleness and rapidity of the heart contractions. At Dr. Butler's suggestion, I put him on tincture of strophanthus, in six minim doses every four hours. At the end of three days I saw him again, and his pulse had gone down from 130 to 80, and I was then able to locate quite accurately a well-marked mitral murmur; I kept him on strophanthus, and he did very well.

The second case was a case referred to me by Prof. Seguin, of New York, in which there was functional irregularity of the heart and weakness of the cardiac muscle, in which I had used digitalis for some time, and also digitalin, but these agents losing their apparent stimulating properties upon the cardiac muscle, I substituted strophanthus, in five minim doses of the tincture, with very happy results. It took the place of a ten minim dose of tincture of digitalis.

The third case in which I used strophanthus was one of functional irregularity in a young lady; there was no valvular lesion discernible; the circulation was bad, however, due in this case to a small heart,

and here I switched off from digitalis to strophanthus, hoping thereby to avoid losing the stimulus of any drug which is too long used. I substituted what I thought would be an equivalent to the patient's dose of digitalis, viz., eight minims of the tincture of strophanthus; but the results here were not at all happy. The drug had a very marked effect upon her cerebrum. It led to dizziness and to extreme mental depression and hallucinations, so much so that her people became alarmed at the symptoms she was manifesting and called me up to see her, and I stopped the drug and returned to digitalis, and the symptoms disappeared. As the Doctor did not mention the cerebral disturbances in his observations of this drug, I thought this case might be instructive.

Dr. H. F. WILLIAMS.—I am surprised at the limit of the dose, as suggested by Dr. Butler. Some eighteen months or two years ago, when strophanthus was introduced, we were cautioned about the quantity of the dose. My recollection takes me back to the exhibition of strophanthus in one of our members, who has since died, where he took one minim doses very cautiously. I have read nothing, in fact I have heard nothing, on this subject until to-night, which led me to believe it was possible to give fourteen minim doses. I would suggest that perhaps there might have been some alteration in the officinal preparation, or perhaps we are becoming more used to it, just as we did with bromide of potassium. When that first came out we never thought of giving it in sixty or ninety grain doses as it is given to-day.

I have a case of heart failure in conjunction with lung disease, which does nicely with two minim doses every four hours—Merck's tincture of strophanthus. I would suggest that Dr. Thallon's case, so illy affected by eight minims, may have been confirmatory of our early ideas in regard to overdosing of strophanthus. I am quite sure that early experimentors were doubly cautious about an overdose of strophanthus, on account of the cerebral as well as the gastric troubles, their object being to hold and tone the heart, and not overexcite it. It might be well to remind the members unfamiliar with its use that, if they administer it in eight or more minim doses, they may get the evil effects and not the benign.

Dr. ECCLES.—The early literature upon the use of strophanthus in England mentions a few cases similar to those of Dr. Thallon, in which cerebral trouble occurred, and even when small doses were used. Not having had any experience with the drug, I have no testimony to enter either for or against it. With paraldehyde, however, the case is different. After many trials, my opinion is that it ranks among our best and safest hypnotics. Given with syrup and water, as advised to-night, my early experience showed this method of administration unsatisfactory. The dose could not be properly regulated. Unless a large bulk of

syrup and very small one of paraldehyde was ordered, separation would occur, and the patient be overdosed at one time and underdosed at another. When the bulk was made large, the quantity caused nausea and sometimes vomiting. Paraldehyde is soluble in fixed oils in any proportion. Oil of sweet almonds is an excellent vehicle, making a perfectly clear mixture that requires no shaking to regulate the dose. It can be given thus with perfect freedom and in small bulk. The slight laxative effect of the oil is generally beneficial also. I have given paraldehyde in delirium tremens with better results than from bromide of potassium.

Dr. BUTLER.—I am under obligation to my friend, Dr. Thallon, for reporting his case in which cerebral symptoms were produced by strophanthus. The point should, perhaps, have been mentioned in the paper; but in a fairly large experience with the drug, I recall but one case in which such symptoms occurred—an old lady who had presented evidence of mental derangement before the administration of strophanthus. These psychic disturbances increased in severity up to the time of her death, which was caused by degenerative disease of the heart and arteries. It is a question, therefore, whether the strophanthus was responsible for her cerebral symptoms. At all events, the point is a good one and deserves further investigation.

Dr. Williams has, in his usual kindly way, expressed some surprise at a dose of fourteen minims of strophanthus. If I remember rightly, the statement in the paper was that the dose varied from three, as the usual minimum, to fourteen as the maximum, and that it is better to give small doses frequently than large doses at longer intervals. I take it that in the use of most drugs, especially those which have a marked and quickly perceptible physiological action, we are generally guided as to doses and their frequency by close observation of their effects upon the organism. If given with the caution befitting that class of medicaments to which strophanthus belongs, I see no reason why the dose should not be increased up to fourteen minims, as I have sometimes thought advisable to do.

The comments of Dr. Eccles on paraldehyde, in regard to its solubility and the best mode of administration, are very useful and, without doubt, correct. My statement as to the solubility of paraldehyde was based upon the authority of approved writers, but in common doubtless with others I have frequently been disappointed as to the solubility of various substances when subjected to the actual test of prescribing. One gets to be somewhat incredulous in regard to the mathematical formulæ of solubility given by various authorities.

Dr. F. H. STUART.—I have had the opportunity to use strophanthus in but few cases. The experience I have had has been in harmony

with that recorded in the following paper by Dr. Leon Rosenbusch, Assistant Physician to the Hospital at Lemberg, and which appeared in the *Berliner Klinische Wochenschrift*, No. 7, 1888, a translation of which (slightly abridged) I thought would be of interest to the Society, as it is one of the most complete studies of this new, and what promises to be a most important, addition to our materia medica: "It is a native of Africa. The parts used are the seeds (though the medical properties exist also in the leaves and bark.—Fraser). The natives use it to poison arrows, with which they kill game for food. They cut out the wound made by the arrow, and no harm results from eating the game thus killed. The seeds are bruised, and sufficient water poured over them to make a thick pulp, which after a certain time becomes reddish in color. . . . Fraser, of Edinburgh, was the first one to employ it in medicine (*British Med. Jour.*, Nov. 14, 1885). His conclusions, drawn from physiological and clinical investigation, are the following:

- 1st. It increases the systole and retards the heart's activity.
- 2d. It has slight or no effect on the bowels.
- 3d. It produces no disturbance of digestion, as digitalis.
- 4th. Like digitalis it is diuretic and antipyretic. (This latter conclusion is disputed by the author of this paper and also by Zerner and Löw in the *Wiener Medizinische Wochenschrift*, No. 36, 1887.)
- 5th. It has no cumulative effect.
- 6th. It ought always to be given in small doses.

For several months (continues Dr. Rosenbusch) I have used this remedy in the wards of the General Hospital at Lemberg. At first I used the strophanthus pastiles of Burroughs, Welcome & Co., London, then the tincture strophanthus and the pure strophanthin of Merck of Darmstadt. In the beginning, I gave five drops at a dose and fifteen drops per day. But after several weeks, when experience showed that no unpleasant consequences resulted, I began to increase the dose to ten drops three times a day, and in severe cases, to twenty-five drops. I used the pure strophanthin in the dose of one-half mg, once in two or three days.

At first I used it in common heart affections, especially endocarditis, also affections of the pericardium, heart muscle and vessels, then a large number of cases of renal disease, mostly acute and chronic parenchymatous and interstitial nephritis.

The taste is strongly bitter, which lasts a long time. I coincide with Fraser that it generally agrees with patients. It did not do so only in cases where the digestive apparatus was already much out of order, when a large dose caused nausea and vomiting, which was allayed by a few doses of aq. laurocerasi. But I do not think the con-

stant use of the latter necessary. Except in cases of already existing disease of the digestive apparatus, the use of strophanthus did not irritate or otherwise harm it.

The hypodermic use of one-half mg. of strophanthin caused severe burning at the seat of injection, lasting four to eight hours, accompanied with redness and some swelling beneath the skin of the surrounding part. There was also headache, disturbance of hearing, nausea and vomiting in nearly every case in which for the sake of an accurate dose and a prompt observation, a one per cent. solution of strophanthin was used hypodermically. Although these effects of strophanthin made no special disturbance of the patients and the nausea soon passed away, yet the burning lasted a long time and is a considerable objection to this mode of using the drug.

In from fifteen to twenty minutes after a 15-20 drop dose of the alcoholic tincture given to a healthy adult, the pulse becomes slower, and there is increased tension of the arterial vessels. The countenance becomes flushed, while pulsation in the temples, ringing in the ears, and a sense of weight in the back part of the head, are also usually present. In the case of a healthy young man, after a dose of twenty drops, the pulse rate was as follows: At the time of taking, 86; five minutes later, 82; ten minutes, 47; thirty minutes, 70; forty-five minutes, 68. Similar results are observed in cases of heart disease. Twenty to sixty minutes after a dose of ten drops, the pulse is slowed and the tension increased. In a case of mitral insufficiency with stenosis, *in stadio incompenstationis*, with general dropsy, the pulse rate fell from 132 to 108 in fifteen minutes after a hypodermic of one mg. The slowing of the pulse follows quicker and is more marked by this method, usually beginning two or three minutes, and lasting four to eight hours, after the injection. The pulse wave is also increased, and can be noticed in about twenty minutes after taking a dose.

The changes are noticeable by the touch, but in some cases and in different portions of time are still better demonstrated by means of the sphygmograph.

Cases of incompetency with general anasarca and ascites after continued treatment with tincture strophanthus gradually improve in general condition, the dropsy disappearing, the cyanosis and dyspnoea lessening, the daily quantity of urine increasing and the oppression being largely relieved. Without other treatment they are brought to a condition of established compensation.

A case of chronic myocarditis, which had been in the same condition for several months, and to whom the infusion of digitalis had repeatedly been administered without any relief of the irregularity, was, by two injections of about two mg. of strophanthin, and then by a

daily administration of thirty drops of the tincture of strophanthus, almost entirely relieved.

A case of insufficiency of the aortic valves of striking interest occurred. The patient had been in the same condition for several months, when he was seized with symptoms of incompetency. At first he was given infusion of digitalis, when they entirely disappeared. After three weeks, during which he was without medicine, he began to have dropsy about the ankles, dyspnoea and cyanosis, for which he was ordered thirty drops a day of tincture strophanthus. After a few days the symptoms again disappeared and the medicine was stopped. But in about two weeks the symptoms of incompetency returned, which were again entirely subdued by the tincture strophanthus.

Besides treating these cases of heart disease with strophanthin and tr. strophanthus, I also treated disease of the kidney, especially acute and chronic parenchymatous and interstitial nephritis.

Although the preparations of this remedy proved of special service in the treatment of heart disease and, besides regulating the blood current, increased the quantity of urine, in diseases of the kidney I neither noticed any increase of the quantity of the urine nor any special effect from this remedy. [Table is given showing that cases where digitalis had caused an increase of the urine showed a disposition to return to the former scanty condition when strophanthus was used instead.] Attention is called to the fact that, while there is no diuretic action in cases of kidney disease, there is a marked increase of the urine from it in cases of heart disease, as was shown above.

The pain attending the subcutaneous injections, which is indeed somewhat modified by cocaine or carbolic acid, with the headache and nausea are such marked effects that this method is not to be used. But the tincture, which in the course of this investigation was used many times, has proved an excellent remedy in heart disease.

The conclusions from this experience are :

1st. Strophanthus has a marked effect upon the heart, in that it strengthens the systole and prolongs it, the tension of the arterial vessels is increased, and the heart's action retarded.

2d. It strengthens the heart-muscle and regulates the heart's work.

3d. Its diuretic action in heart disease is marked, but is very small in kidney diseases.

4th. It does not, like digitalis and other heart poisons, disturb the digestive apparatus.

5th. It shows no cumulative action.

6th. It is best given in pure tincture, in doses of ten to twenty-five drops three times a day. [Syrup of orange forms a good vehicle, somewhat disguising the bitter taste, which is so persistent.]

7th. It is less active, and on that account can be given in cases where we are not yet certain that digitalis is the appropriate remedy.

8th. It especially maintains the effect of previously given digitalis in cases of marked incompenation.

9th. The alcoholic is to be preferred to the ethereal tincture, because it contains all the bitter glucosides and does not disturb the digestive apparatus.

10th. In cases of aortic stenosis, its effects are such that it still more lengthens the systole, and hence ought not to be used.

[In the *Medical Record* for May 7th, 1887, page 515, is an excellent paper by Prof. S. C. Chew, of the University of Maryland, on the use of strophanthus in dilatation of the heart. Though but one case is given, it is very carefully studied, and the point is strongly made that strophanthus, while it acts powerfully upon the heart, has no action upon the blood vessels, and hence is in contrast with, and is to be preferred to digitalis in cases of dilatation. The effect of the latter remedy upon the blood vessels antagonizes the effect it has in strengthening the heart. . . I may also call attention to Oertel's treatment of incompetency, dilatation, and overworked heart by exercise carefully regulated and by reducing the quantity of the fluids imbibed.

Dr. VAN COTT.—One feature of strophanthus has not been mentioned, and that is the lack of effect, even of toxic doses, on the respiratory centre. Dr. Fraser will dispute the German writer. In his experiments on the hearts of frogs, he found that digitalis, in doses or in solutions of one in two thousand, would cause stoppage of the action of the heart, while strophanthus, in solutions of one in ten thousand and finally one in two million, would very promptly arrest the action of the heart; would cause a firm contraction of the ventricles, the auricles remaining dilated and filled with blood. The clinical action of strophanthus, according to Fraser, is much more rapid and forcible than that of digitalis. He speaks of the action of strophanthus in nephritis, and he claims that it acts better where there is anasarca; where there is no œdema, strophanthus is of no great value in nephritis.

Dr. WEST.—I can bear a little testimony to the usefulness of this drug. From the reports which I have read and the cases in which I have used it, I believe that a very valuable remedy has been added to our armamentarium. The point which Dr. Stuart alluded to in closing, as to its increasing the tension in consequence of increased force of the heart, is to my mind a very decided advantage over digitalis in a dilated heart. The arterial tension, as is shown by sphygmographic tracings, and by the experiments made by Fraser, show that the tension

is not due to any vaso-motor action, but simply because of an increased quantity of blood in the vessels, because of increased systolic power on the part of the heart.

Another advantage over digitalis is its non-irritant property to the stomach. It acts much as many of the bitter tonics, such as gentian, columbo, etc.; consequently, it is to a certain extent a tonic to the stomach. Because of its not increasing vascular tension, from the fact of its having no effect upon the vaso-motor system, it is not so useful as digitalis for controlling hæmorrhage.

I have at the present time four cases that are using this drug. One is a case of double lesion at the aortic orifice and a double lesion at the mitral, with a markedly dilated heart; where pulmonary œdema and œdema of the extremities, together with marked dyspnœa, were relieved in forty-eight hours. I saw a case on Saturday with mitral lesion, the heart being dilated, with marked general anasarca. I saw this case again this afternoon, and since Saturday she has had but two paroxysms of dyspnœa, whereas previous to that time she was suffering constantly from orthopnœa. This drug has been a decided diaphoretic in my experience, producing copious sweating, which is an advantage, certainly where we wish to get rid of an anasarca condition.

As to its non-cumulative effect, I believe that is true. I have a man with a dilated heart under my care at the present time, who has been taking strophanthus since September. In this and other cases, I have been obliged to give a much larger dose than is recommended. I first started with five minim doses three times a day. I then increased it up to once in four hours, subsequently up to ten drops once in two hours, and he maintained taking that dose for a considerable time until a decided diuretic and diaphoretic action was obtained. Subsequently I reduced the dose as the effect was accomplished.

I should take exception to the statement made in the paper, as to associating it with a syrup. The drug, in my opinion, should be given alone and by itself, for the reason that you wish to graduate the dose, in the first place, according to the effect obtained. It may be that one time you wish to give ten minim doses, and subsequently it may be desirable to administer smaller quantities. In but one instance have I found that it disagreed with the stomach. Fraser urges that it shall not be combined with anything. A sickening syrup is oftentimes an agent which tends to aggravate and disturb a stomach which is congested, as this organ would be in the lesion which especially indicates this drug, namely, a mitral insufficiency.

There is one other agent belonging to the same class, which I would like to allude to—the sulphate of sparteine. It acts very much as strophanthus does. The advantages of strophanthus over digitalis

are, in the first place, that it does not disturb the stomach; second, that it is not cumulative; and, finally, it does not increase the arterial resistance. The advantages of sparteine are these: its quickness of effect, acting in from one to three hours; the permanency of its effect, which will be from eighteen to twenty-four hours; and the fact that it is non-irritating. Sparteine I have used in certain cases where I have employed the two drugs, not together, but separately or alternately. Sparteine is especially indicated where there is a disturbance of rhythm, this disturbance showing itself either in an irregularity as to frequency or force of heart-beat.

The case which I alluded to as having taken strophanthus for such a length of time had a cardiac action which was characterized by an especial irregularity—an irregularity which had persisted, to my knowledge, for seven or eight years, for the reason that he came under my observation at that time, and the irregularity had been maintained more or less continually ever since. To start with, I employed in that case the sulphate of sparteine in half grain doses once in twenty-four hours, and gave him strophanthus once in two hours. The effect was to correct the irregularity almost completely by increasing the force of the cardiac pulsations. I simply allude to the drug as being an agent which is allied to strophanthus; and from the limited use which I have made of it myself, and the testimony which is given regarding it, I believe that it is an agent which should go hand in hand with strophanthus and digitalis.

As to its diuretic effect, I believe it is generally acknowledged that it is a diuretic agent only when we have a weak heart, and it is diuretic by reason of increased circulation caused by the increased force of the ventricular systole.

HISTORY OF DIPHTHERIA: ITS FIRST APPEARANCE IN BROOKLYN IN 1854.

BY JOSEPH H. RAYMOND, M.D.

Reprint from the *Brooklyn Daily Eagle*, May 9, 1886.

It seems to be a very general popular impression that diphtheria is a new disease; one which has until very recent years not only been unknown in this region, but without any existence elsewhere; that while smallpox and scarlet fever have existed for very many years, diphtheria is a new comer, without a pedigree, and entitled to a place among diseases rather from the prominence it has recently obtained than from

any claim it may have by reason of its age and past history. It is hardly necessary to say that though this is the opinion of the laity it is far different with the members of the medical profession, who study with intense interest this disease, which has for centuries baffled the most skillful physician in his endeavors to control it, and the investigator in his efforts to detect the source from which it originated and the means by which it is propagated and disseminated. To quote the words of Oertel, in his essay on diphtheria in Ziemssen's Encyclopedia: "Diphtheria is one of the oldest epidemic diseases of the human race." When in 1821 Bretonneau, of France, first scientifically studied and described it, giving it the name by which it is now known, he endeavored to show that even Homer, who flourished 1,000 B. C., and Hippocrates, living 460 B. C., knew the disease and regarded it with great dread as being very malignant and fatal. The name then given to it was *Malum Ægyptiacum* (the Egyptian disease), and its symptoms are so similar to the diphtheria of the present day that it is not surprising that they should be regarded as identical. Aretaeus in 100 A. D., described it, and believed that it originated in Egypt and Syria. That this physician nearly eighteen hundred years ago really saw diphtheria there can be no reasonable doubt. However we may regard the evidence that Homer and Hippocrates were conversant with it, we must acknowledge that Aretaeus of Cappadocia, in the first or second century of the Christian era, was professionally brought in contact with the same disease, which is now no longer an occasional visitor here, but which has obtained such a foothold in the United States, both in city and in country, as to have become a permanent resident, which position it will probably maintain so long as any diseases of its class continue to exist. No other disease known to physicians could so perfectly accord with that described by Aretaeus, this *Malum Ægyptiacum*, as diphtheria. The symptoms referable to the throat and the larynx, and indeed the whole description as given by him needs but the modern name of diphtheria to be accepted by all as the Egyptian disease. The names this disease has borne in times past are many: *Ulcus Syriacum*, *ulcus Ægyptiacum*, *garotillo*, *morbus suffocans*, *angina maligna*, and various others which need not here be mentioned.

From this brief history it is seen that diphtheria is not an upstart, thrusting itself on the world's attention simply on account of its general dissemination, but that its claims to prominence in the nomenclature of disease are based upon a record antedating precise historical periods, and possibly coeval with the fall of Troy and the deeds of the Father of Medicine. In the second century the Greek physician Cælius Aurelianus and in the fifth Ætius observed the disease and contributed to its literature. It is said to have been epidemic in imperial Rome in 380 A. D.

From the time of *Ætius* until the year 1557, when it appeared in Holland, nothing is known of it. In 1563 it was epidemic in Naples and Sicily; it visited Constantinople in 1564; Paris in 1576, and in Spain it was a scourge from 1582 to 1613; Germany in 1565 and Portugal in 1626 were also visited. Long before Bretonneau established this disease on the basis upon which it now rests it had made its appearance on this side of the Atlantic. At Roxbury, Mass., there lived in the year 1659 Samuel Danforth, who lost three children, from "the malady of bladders in the wind-pipe," "it having pleased God to take them all away at once, even in one fortnight's time." Other mentions occur in the writings of travelers showing that at about this time diphtheria was more or less prevalent in different parts of New England. In 1735 began an epidemic which continued for a series of years, during which it spread from Kingston, N. H., westward to the Hudson river, running through all the British colonies on the continent. Its history is so interesting and instructive, and carries the disease, as it were, to our very door, that it is here reproduced in full. It is recorded by William Douglass in "The Practical History of a new Epidemical Eruptive Miliary Fever, with an angina ulcusculosa which prevailed in Boston, New England, in the years 1735 and 1736."

He says that it was first noticed in Kingston Township on the 20th of March, 1735, about fifty miles eastward of Boston. As this was an inland place of no considerable trade or importance it was thought (incorrectly perhaps) to be of indigenous origin, and not of foreign importance. The first victim was a child, who died in three days, and about a week after three children were seized in another family four miles distant, and they also died on the third day. It continued spreading gradually, seizing here and there particular families with that degree of violence that of the first forty cases none recovered. * * * After a few weeks it spread from Kingston to the neighboring township, but in a milder form. No reason could be given for this great malignity in Kingston, except, perhaps, the prevalence of damp places near large ponds and fresh water, but sluggish streams, like in those localities which produces the rot in sheep. * * * Its first recognized appearance in Boston was on the 20th of August, 1735, in a child. Toward the end of September it appeared in several parts in the town of Boston. To the eastward of Boston, at times, one in three died; in other places one in four, and in scarce any towns less than one in six; whereas in Boston not above one in thirty-five succumbed.

The disease reached the Hudson river in about two years, and appeared to follow the line of travel taken by New Englanders. An epidemic of diphtheria occurred in Paris in 1745, in England in 1744. The first epidemic in Switzerland was in 1752; that in Holland in

1747, and in Sweden in 1755. In 1769 the disease existed at Jamaica, L. I., though when it first made its appearance there it is difficult to say; probably, however, about this date. A few years later Samuel Bard contributed to medical literature a statement of facts which came under his observation in the treatment of this disease. Dr. J. C. Peters says of this description that it "is among the calmest, wisest and most accurate that has ever been written on diphtheria, both before and since his [Bard's] time." In this article Bard writes:

"Upon the whole I am led to conclude that the morbus strangulatorius of the Italians, the croup of Dr. Home (a Scotchman who wrote in 1765), the malignant ulcerous sore-throat of Huxham and Fothergill, and the disease I have described and that first described by Dr. Douglass, of Boston, however they may differ in symptoms, do all bear an essential affinity and relation to each other, or are apt to run into each other, and, in fact, arise from the same germ. The disease I have described appeared evidently to be of an infectious nature, and, being drawn in by the breath of a healthy child, irritated the glands of the throat and windpipe. The infection did not seem to depend so much on any prevailing disposition of the air as upon effluvia received from the breath of infected persons. This will account why the disorder sometimes went through a whole family and yet did not affect the next door neighbors. Here we learn a useful lesson, viz.: To remove young children as soon as any one of them is taken with the disease, by which many lives have been saved and may again be preserved."

In 1818 a severe epidemic occurred at Tours, France. This was carefully and scientifically studied by Bretonneau, who subsequently published a series of essays. The membrane being the striking characteristic he called it diphtheritis, from the Greek diphthera, skin. Trousseau changed the name to diphthérie, which was Anglicized by the Registrar General of England into diphtheria. Bretonneau regarded the disease as a disease in itself, having no dependence upon any other. Since that time diphtheria has spread throughout the known world and has been written about by every author of prominence in the domain of practical medicine.

In 1826 Edinburgh was visited by an epidemic of diphtheria. From this time till 1853 the disease attracted little attention; in that year it prevailed to a considerable extent in Paris, and two years later in Boulogne, from which place it was imported into England in 1856, and assumed alarming proportions in 1858-9-60-61 and '62.

The first case of which I can find any record occurring in the city of New York since the last century, was reported by Dr. A. Jacobi, February 15, 1852. In that city in 1857 there were two fatal cases; in 1858 five cases proved fatal; in 1859 the number of deaths had increased

to fifty-three, while in 1860 the figure reached four hundred and fifteen.

Although diphtheria had appeared in Jamaica, L. I., about the year 1771, there seems to be no mention of its presence in Brooklyn at that time nor for a period of more than three-quarters of a century later. Dr. Elisha Harris, in a private letter to the writer, says:

"There is ample historical evidence that along the northern slope of Long Island numerous neighborhoods suffered severely from diphtheria more than once during the last century. The town records of Nassau (Brooklyn), Newtown, North Hempstead, Oyster Bay and Huntington may yet be found to contain manuscript testimony upon this subject; but medical literature gives just enough to assure us of this general fact: that diphtheria prevailed fatally and contagiously, as well as epidemically, on Long Island at least twice during the last three decades of the eighteenth century."

The first recorded case in Brooklyn occurred in 1854. As it is the first case in a series of more than 20,000, of which nearly 8,000 have proved fatal, a special interest attaches to it. The patient, who was then a young man, is now in the prime of life and in excellent health. His residence was in one of the best sections of the city, on Washington avenue, between Greene and Lafayette. The physician in attendance was Dr. James Crane, and a most admirable history of the case and its treatment to the fullest details may be found, by those interested, in the Transactions of the Medical Society of the County of Kings, the volume of 1858. In the report of the health officer of Brooklyn for the year 1859, thirteen deaths are recorded from this disease, and this is the first appearance of diphtheria in the public records of the city. When we consider that it had been among the active causes of disease in the city for at least seven years, and had in the three preceding years become an important factor in the list of death-producing maladies in our sister city, increasing in that period from two to fifty-three, we cannot but be surprised that no mention is made except the simple record of the number of deaths caused by it. A tabulated statement of the causes of death in this city from January 1, 1848, to December 31, 1858, contains no mention of diphtheria. From that time until the present it has never been absent from such statement and now stands among the most prominent causes of mortality. In 1860 the deaths had increased to one hundred and thirty-five, but no word of explanation as to causation, locality or other reference to the disease by which we might trace its source or gain some information as to its then mode of propagation. From this time to the first report of the Metropolitan Board of Health, that of 1866, the only literature is that found in the Transactions of the Medical Society of the County of Kings, which extend from October, 1858, to December, 1865.

(To be Continued.)

THE LOCAL USE OF PERMANGANATE OF POTASH IN NASAL AND PHARYNGEAL DIPHTHERIA.

BY L. D. MASON, M.D.

The diphtheritic exudate may appear upon any of the mucous membranes, or upon abraded integumentary surfaces, causing cutaneous diphtheritis.

The fauces and nasal fossæ are the localities in which the pseudo-membrane most commonly appears.

It was a debatable question formerly whether or not we were dealing with a chemical poison or a micro-organism, some writers advancing the former theory that the septic and putrid poison was distinctly chemical; or, "admitting the presence of micro-cocci, even to the production of local necrosis of tissue," the chemical theorists denied that a micro-organism or a so-called parasite was the essence of the diphtheritic exudate.

This was the bacteriological theory of 1880 concerning diphtheria; but recent study of infectious microscopic germs has placed the etiology of this, as of other diseases also, on a more definite basis.

Dr. Formad, of Philadelphia, has succeeded in isolating a micrococcus from the diphtheritic exudate, making cultures of the same, and, by inoculation in animals, producing the characteristic pseudo-membrane.

Diphtheria is a specific, contagious, and highly infectious disease. To neutralize and destroy this septic poison, dangerous alike to the patient and those about him, is the first duty of the medical attendant. Fortunately, in the majority of cases, the local manifestations of the disease are under his control, covering, as the exudate does, the tonsils, palate, pharynx, often invading the nasal fossæ. Through the mouth and nostrils we can readily reach these localities.

From time immemorial, while systemic treatment has not been neglected, the efforts of the physician have been largely directed to the disinfection of the upper air passages, and the substances used and the methods of their application have greatly varied.

Direct application with a brush or swab, the old-time gargle, insufflation, blowing or dusting powdered substances, as sulphur, upon the parts; direct inhalation through an inhaler of gases, as ozone or various medicated vapors; surrounding the patient with the steam of boiling water, to which volatilizable substances, such as turpentine or vinegar, have been added; placing over an alcohol flame substances readily volatilized by heat, as chloride of ammonium; or simply exposing to the air substances which easily volatilize by such exposure, as

iodine, which is said to have excellent anti-bromic effects ; and lastly, through the intervention of certain mechanical appliances, the nasal douche and the atomizer, by which finely divided medicated solutions are sprayed directly upon the affected parts. Of these various methods we may eliminate from use the throat swab and brush, as difficult to apply, apt to be resisted by the patient, and likely to cause vomiting from reflex irritation ; for the same reason we put aside the use of powdered substances blown or dusted on the parts.

The gargle requires the upright position, is an entirely voluntary act, is exhausting to the patient, and is not adapted for young children. The nasal douche is rather severe in its application, requires also the upright position, is apt to be resisted and also lead to middle-ear trouble. The burning or volatilizing of drugs, without the media of a steam laden atmosphere, is apt to provoke a cough from bronchial irritation, and is therefore not desirable. Inhalation of gases or medicated vapors from an inhaler requires a degree of voluntary effort, acquiescence, and quietude which we cannot readily expect to be exerted by a sick child. The closure of the mouth on the tube is necessary to secure deep inhalations, and thus the respiratory acts, already difficult, are rendered more so.

If we can surround the patient with a steam laden atmosphere, impregnated or not with volatilizable substances, we have secured a valuable aid to our other resources, productive of good results, easy of application, continuous in its effects. But to be effectual it must be thorough ; the difficulty will be to secure a sufficient as well as a constant supply.

The stove in the sick-room is not a sanatory advantage, but sometimes we find among the poorer classes it is the only means of heating the apartment. We have occasionally taken advantage of the short smoke-pipe that passes to the chimney flue, and laid upon it cloths wrung out of hot water, changing them frequently ; hanging towels or cloths dipped in boiling water about the room will help also. The croup-kettle, or shallow tins provided with an alcohol flame, will also be of advantage. Where the circumstances of the patient will warrant it, more expensive appliances for generating steam can be supplied ; but whatever method is used, the supply of steam must be abundant and continuous. The slaking of lime may be by some preferred to other methods.

We believe that thus placing the patient in an atmosphere charged with steam will prevent secondary tracheal and pulmonary complications, hasten the throwing off of the exudate, and certainly facilitate the respirations, and so add greatly to the comfort of the patient. In the progress of the case, pure air should be admitted from time to time,

or a continuous supply provided for. In a disease in which the tendency is to rapid deoxidation of the blood, we must bear in mind this fact also. The atmosphere of the room can be kept pure without lessening the degree of moisture or lowering the temperature. The latter will vary from 75° to 80° . It will be necessarily elevated, owing to the presence of boiling water, the heat necessary to produce it, and the volume of steam in the room. The respiratory tract is thus influenced by a warm, moist atmosphere, facilitating, as has already been said, the respiration, hastening the loosening of the diphtheritic membrane, and lessening the chances of secondary complications. It is far better to anticipate, by the early use of so simple a measure at our disposal, the serious results that may ensue, than to await their arrival and then use such agency by compulsion. Even when called to a case apparently hopeless, we might by this measure mitigate the sufferings of the patient, if not turn the tide in his favor.

When we consider how intricate the upper portion of the respiratory tract is, the tonsillar crypts, the sulcii between tonsils and pillars of the soft palate, the nasal fossæ, in whose hidden recesses the septic and putrid germs may lie, the fact that prompt, direct and thorough disinfection is a *sine qua non*, is at once apparent.

The atomizer answers this purpose, and is the favorite appliance for direct disinfection of these parts. Aside from the more expensive and complicated forms adapted for office use, there are many forms in the market, regulated by the rubber ball and manual pressure—Davidson's, Millard's, and others. The one preferred for general use seems to be Millard, No. 5, continuous spray, with a mouth guard of hard rubber, the latter being a useful addition, especially in the case of young children. Should the patient be restive, the spray tube is not so apt to injure the buccal or nasal mucous membrane as if it would when unguarded. It is equally suited for the throat or nose. Whatever medicated fluid is used, the spraying must be thorough and personally administered by the physician in attendance, at least three or four times daily, if not oftener, in the early treatment of the case, spraying through either nostril, so as to disinfect the posterior nares, and posteriorly velum, palati and through mouth, to disinfect tonsils, pharynx and mouth.

As a rule, resistance on the part of the child will not be troublesome, if not too roughly approached at the outset; but in any case the disinfection will certainly be much easier and more quickly accomplished than by any other method.

Hot gargles or mouth washes may be used if the child is old enough and willing to use them, and the upright or sitting position is not contra-indicated, but they cannot with safety supplement thorough disinfection with the atomizer.

A great variety of drugs capable of solution have been used to spray the affected parts—lime water, or equal parts of lime water and glycerine, dilute sulphurous acid, dilute lactic acid, dilute carbolic acid, borax, alum, liq. sodæ chlorinat.

Probably there is not any remedy in the pharmacopœia that can be used with safety that has not been applied directly to the fauces by some method, from the solid caustic to the less severe applications.

A solution of permanganate of potash, used in the form of a spray through the atomizer, has given to me more satisfaction and better results than any other drug so used. A stock solution is prepared of potas. permanganate, \mathfrak{z} ij to distilled water \mathfrak{z} iij, or grs. v to \mathfrak{z} j; \mathfrak{z} j of the solution is added to about \mathfrak{z} jss or \mathfrak{z} ij of water, the average capacity of the atomizer bottle. It is then ready for use as a spray, in the manner already indicated.

The first notable effect is the almost immediate arrest of the fœtor exhaled by the patient; and when once this is corrected and the disinfection properly kept up, it will not recur during the treatment.

By this means we rapidly simplify and reduce to an innocuous product the diphtheritic exudate; the self-poisoning that has been in progress is arrested or modified. The danger of the patient to himself, if we can so express it, and to others also, is averted, a downward tendency is arrested, and the chances of recovery greatly enhanced.

An occasional mouth-wash or gargle can be used between the spraying, if not contra-indicated. If used, it should be prepared with hot water; a weaker solution of potas. permanganate will answer. Fluid nourishment, taken hot if possible, will have a good local effect.

All cloths, etc., on which secretions are caught, should be frequently burned, their places being supplied by fresh, clean pieces. Old and small pieces of linen are preferable to larger cloths or handkerchiefs.

The hands and face of the patient should be kept clean, using bay rum or alcohol and water. In a word, a perfect antiseptic condition of the patient and his surroundings should be secured and maintained.

My experience with potas. permanganate was first a surgical one, as a deodorizer and mild stimulant, in the cleansing of foul ulcers and sloughing tissues; secondly, in puerperal septicæmia, as an intra-uterine douche; in scarlatina anginosa, with putrid sore throat, and the so-called "snotty nose" complication and secondary glandular infiltration; and, finally, in diphtheria; and in none of these conditions has it failed to disappoint me as to its antibromic, and antiseptic properties.

The conclusion of George A. Sternberg, M.D., U. S. A., demonstrated that potas. permanganate has decided germicide and antiseptic properties; that it is a prompt and valuable deodorizer; but for general purposes, for disinfection on a large scale, it is not adapted, because of the readiness with which it decomposes in the presence of organic matter, yielding up its oxygen readily in the form of ozone, being reduced to the state of a bin-oxide. Owing to its unstable qualities, it should be carefully prepared with distilled water, and kept in glass-stoppered bottles.

It is one of the most valuable salts of manganese, and is prepared by mixing nearly equal parts of the deutoxide of manganese, chlorate of potas. and caustic potash in a little water, evaporating to dryness, exposing to a nearly red heat, and finally dissolving in hot water, and again evaporating to dryness, the product being needle-shaped crystals of a deep rich purple color—this being the potas. permanganate of the shops.

The ease with which it decomposes and gives up its oxygen in the presence of organic matter renders it a valuable test for organic impurities in drinking water, and it has been so used. This quality makes it also a valuable test as to the presence of harmful secretions, because we may safely assert that if a solution of it comes away unchanged, that is, retaining its clear purple color, it has not been in contact with putrescent matter, whereas if it returns changed to a dirty or dull brown, it is proof positive that it has met with such secretions.

In prescribing it, it should be dissolved in distilled water as recommended, and this concentrated or stock solution should be set aside and used as the basis from which, with further dilution, all washes or sprays are made.

All such dilutions losing their bright purple color should be thrown away, as the change indicates the presence of organic matter; hence the solution for use should be occasionally freshly prepared during the treatment. The staining of the fingers and bed linen is a minor objection, and may be avoided with care.

Mixed into a paste with a little water, potas. permanganate has mild caustic properties, but it is not an escharotic, nor does it have any irritating properties in the strength recommended.

It has been used internally in puerperal fever, erysipelas, scarlatina, and other conditions of septicæmia, the dose being from two to five grains.

Used in the form of a spray it is perfectly safe. We can use it freely. We will not poison our patient. We cannot so confidently speak of the possible effects of other drugs used for purposes of disinfection; indeed poisonous, if not fatal, effects have been traced to some that have been so used.

The use of the spray should be continued until the last vestige of the diphtheritic exudate has disappeared. The frequency of its use will depend on the amount of exudation present and the stage of the disease. As a rule, the absolute control of the fœtor is our best guide.

The other indications for treatment anticipating the tendency to death from heart, tracheal, pulmonary or kidney complications, it is not the province of this paper to consider. But we may safely assert whatever form of systemic treatment is adopted, unless it is combined with proper local disinfection, prompt, thorough and persistent, we can expect but one result—that of failure. It may be said we guide our patient through a labyrinth of chances by the use of multiple measures. This is true, but there is no one measure that can exceed in importance the one that we have had under consideration. Whether we regard the disease as at first systemic, with secondary local manifestations, or at first a local condition becoming systemic; in either case, especially in the latter, local treatment is all important.

THE BROOKLYN MEDICAL JOURNAL.

EDITORIAL.

CORNELIUS REA AGNEW, M.D.

The death of Dr. Agnew, which occurred April 18th, was a severe shock to the medical profession of the whole United States, coming as it did so suddenly and so unexpectedly. Had Dr. Agnew reached the allotted three score years and ten even then his death would have been a great loss, but passing away at the early age of fifty-eight, when "his eye was not dim, nor his natural force abated," in the very strength of manhood, ripe in an experience of years which was unsurpassed, his loss may almost be said to be irreparable. The malady to which he succumbed was perityphlitis, resulting in perforation of the vermiform appendix and peritoneal abscess. Dr. Delafield, who was called to see him, recognized the disease immediately, and Dr. Sands evacuated the accumulated pus. The result of this operation gave encouragement to his friends, but general peritonitis followed, and the end soon came. The entire duration of the illness was little more than a week.

Dr. Agnew was born in New York, August 8, 1830. At the age of fifteen he entered Columbia College, from which he was graduated in 1849. He studied medicine under J. Kearney Rogers, Surgeon to the New York Hospital and Professor of Anatomy in the College of Physicians and Surgeons. He received his diploma from the College of Physicians and Surgeons in 1852, and in the following year was appointed House Surgeon and Curator to the New York Hospital. In 1854, he began practice in a small town on the shores of Lake Superior, but after a year's absence from the city he returned, having been appointed Surgeon to the Eye and Ear Infirmary. This position he accepted on condition that he should be allowed first to complete his studies abroad. He became a resident pupil of the Lying-in Asylum of Dublin, and an attendant at the clinics of William Wilde at St. Mark's Eye and Ear Hospital. He subsequently studied in London and in Paris, at which latter city he followed studiously Velpeau, Ricord and Desmarres. In 1855, he returned to New York and began practice. In the following year he married Miss Mary Nash, daughter of Lord Nash, a merchant of New York. In 1858, Gov. E. D. Morgan appointed him Surgeon-General of the State of New York, and at the beginning of the War of the Rebellion, appointed him Director of the State Volunteer Hospital at New York. This latter

position was no sinecure, as the medical supplies of the New York regiments while passing through the city to the seat of war, were furnished them under his direction. At the organization of the United States Sanitary Commission, Dr. Agnew, with Dr. Elisha Harris, was elected Commissioner. The duties and responsibilities of this position were so great that Dr. Agnew resigned from the Eye and Ear Infirmary, and gave to it all the time he could possibly spare from his private practice. In 1866, he established the ophthalmic clinic at the College of Physicians and Surgeons, and in 1869 was appointed Clinical Professor of Diseases of the Eye and Ear in that institution. In 1868, Dr. Agnew established the Brooklyn Eye and Ear Hospital, and in the following year, the Manhattan Eye and Ear Hospital in New York City. In 1865, he was appointed one of the managers of the New York State Hospital for the Insane at Poughkeepsie, and was subsequently twice reappointed. In addition to the positions which have been mentioned, and which he filled with honor to himself and to the great advantage of the entire community, Dr. Agnew held at various times the following positions of trust and responsibility: Trustee of the Public Schools of New York, and President of the Board; Trustee of Columbia College; President of the Medical Society of the State of New York; Secretary of the first Sanitary Reform Association organized in New York, and one of a committee to draft the first health laws for New York. He was appointed Indian Commissioner by President Arthur, and prepared a valuable report on the condition of the Indians of the Southwest. He was an active member of the prominent medical societies of this country.

Among his contributions to medical literature were the following: "A Contribution to the Surgery of Divergent Squint," "Trephining the Cornea to Remove a Foreign Body," and "Canthoplasty as a Remedy in certain Diseases of the Eye."

Although never a resident of Brooklyn, still Dr. Agnew was so well known to most of the members of the profession of this city that he seemed like one of us. Especially do we honor him for the noble institution which he founded in our city, the Brooklyn Eye and Ear Hospital, which will always be a monument to his memory. Dr. Agnew was a man who never sacrificed his principles to his personal interest. If he was persuaded that his duty lay in a given direction, thither all his energies were directed, and naught save the conviction that he was wrong would deter him from striving to reach the goal toward which he had set his face. The action which he took in reference to the Code of Medical Ethics in this State is stated by one who knew him well to have reduced his income \$15,000 in eighteen months. He knew that this would be the effect of his decision, but this did not

for a moment cause him to falter. A prominent physician of an inland town, who did not sympathize with him in the cause which he championed, told him that from that time he should send him no more cases in consultation, although he had previously sent him a large number. Dr. Agnew asked him for what reason, and he replied for the reason that he had taken the position which he had on the question of the code. Dr. Agnew told him that he was glad to hear him say so, that he had long felt it was unjust to a number of gentlemen who had been his students, and who were perfectly competent to treat diseases of the eye and ear, and who were now practicing in this inland town, to have these cases sent to New York, and he should be glad to have them treated at home, both in justice to them and to those young physicians.

We take great pleasure in reproducing the editorial of the *Medical Record* relative to the character of Dr. Agnew :

“Dr. Agnew was beloved by all who knew him, and his name was held in the highest esteem wherever it was known. He was of a modest and retiring disposition, yet he had charming social qualities. Few physicians in this country united so much learning with so many noble traits of character, and his death will be mourned by scientific men and by people in all walks of life.”

And also a portion of that of the *New York Medical Journal*:

“In his devotion to the public interest he did not disdain to concern himself with political discussions and contests—never as a partisan or with any motive looking to his own advantage, but always as a source of light to those who were right at heart but perplexed in mind. In whatever sphere he acted, he always influenced men’s minds powerfully, but, although he was a speaker delightful to listen to, he never resorted to oratorical devices, and seldom even to parliamentary tactics ; it was rather his clear, cold logic, his evident fairness, and his unquestioned devotion to the general welfare that gave him his power in debate. He was a man whose course it was never necessary to explain ; he was *sans peur et sans reproche*.

“Personally, Dr. Agnew was a man of wholesome and attractive appearance. His glance was clear and penetrating, but kindly. He played the Mentor to many a restless or misguided spirit ; but his advice was given only when it was invited, and it always savored more of affection than of rebuke. With the community, with his professional brethren, with his patients, with his personal friends, and in his family, he was a remarkably exemplary man. His loss is that not only of the New York profession of medicine, but that of the entire people.”

The following touching tribute to the character and work of Dr. Agnew is a fit closing to a sketch of the life of this physician, who, in

a medical career of thirty-six years, has done as much to shed lustre on the profession of this country as any man on its roll of honor :

“MINUTE.—In the unexpected and lamented death of Dr. Cornelius R. Agnew, the Brooklyn Eye and Ear Hospital has to mourn the loss of its beloved and honored founder; of one who has been a director of it from its beginning, and who has devoted to it his unequalled knowledge and professional skill with a patient generosity which has been to his associates a constant inspiration. Wise in counsel, punctual and faithful in the fulfillment of every trust, as courteous in manner as he was decided and intelligent in conviction, liberal in even pecuniary gifts beyond what was asked of him, and with an unwearied enthusiasm in performing his part in the practical work of the institution, his fellow members in the Board have loved him as a friend and have rejoiced in the singular nobleness and beauty of his spirit, while in common with all others admiring the rare and brilliant professional attainments which have made his name famous.

“His departure from among us in answer to the call of that Divine Master whom he devoutly loved and served, leaves a vacancy in our circle which we cannot hope to see fully supplied. It is a grief to our hearts, as well as a conspicuous loss to our councils. It takes from our meetings the grace and charm of his most attractive personal presence. We are painfully aware that the peculiar beauty and strength which were united in him are no more to be with us. But we shall always be grateful for the privilege of having known him so long and so well, and of having been associated with him in an institution so near to his heart. The impressions which he has left upon us, of a cultivated, affectionate, consecrated man, working unselfishly for noble ends and quickening others by his fervent example, will never pass from the minds and hearts which he has touched; and the institution itself, which owes its birth to his eager and timely impulse, and which has largely taken the law of its development from his earnest suggestions, will prolong his influence while the city continues.

“It is with the happiest recollections that we part from him, and the happiest assurance that he has received within the gates of light the welcome of Him who here opened the eyes of the blind and who in His glory remembereth the poor.

“*Resolved*, That this minute be entered in full on our records; that it be published, and that a copy of it, attested by the president and the secretary, be sent to the family of Dr. Agnew.

“*Resolved*, Further, that a committee of nine, of which the president shall be chairman, be appointed to represent this institution at the funeral services of Dr. Agnew.”

SOME OF THE DEFECTS OF MODERN MEDICAL
EDUCATION.

The recent graduate of a medical college in New York city, who wrote to a daily journal some account of his college experiences, told a very funny and a very serious story. The scramble for seats in the over-crowded lecture-room, the insufficient observation in the amphitheatre, the well nigh total absence of all direct experience with the sick, the vacuity of knowledge of how to treat sick people, the limitation of the student's acquaintance with his instructors, conveyed a very serious moral. The hospital accommodations at the centres of medical instruction are sufficient to give to but very few graduates in medicine the needful chance to gain bedside experience, and these few a mere handful compared with the annual outpour of the medical colleges. Material for dissecting purposes is hard to get and very inadequate to easy familiarity with anatomical knowledge.

The old system of office study with a practitioner is, if carried out at all, reduced to a mere form to comply with the law, and expensive quizzes are the later resort. These quizzes are mainly based on topics likely to be called up at the final examination, and have a further basis on the little specialties of the professors; notes on the lectures are recognized as the material to be crammed, instead of being the suggestion for collateral reading, and familiarity with these becomes the condition of prizes and appointments. Recent graduates confess, and, at times, bewail these facts, and the examiners for hospital appointments have ample opportunity to see how large a number of incompetent men are endowed with a diploma, and how limited the supply of practical information among the brighter men. Ultimately the young practitioner gains his experience, but with the exception of the small proportion who get hospital appointments, the graduate goes direct to responsibility with a limited theoretical knowledge of diagnosis and therapeutics, to flounder his way out as best he may.

The post-graduate schools are a concession to this state of facts. They are the opportunity to men who appreciate their own deficiencies and are ambitious to be well fitted for their work. Here the classes are smaller, contact with expert men is more intimate, and direct observation of disease is afforded. It is a serious question whether the kind and amount of knowledge obtained at the post-graduate schools should not be a prerequisite to the practice of medicine, for the diploma of the medical school does not, to any adequate extent, express fitness to practice. The diploma and the degree, which ought to represent fitness, are really no guarantee to the community. While the great cities furnish the widest clinical opportunities, these opportunities

are available to but very few among the crowds that are emitted from the great medical schools.

The great mass of young doctors are absolutely inexperienced when they are authorized by the State to practice medicine. The medical schools have been a unit in their opposition to the abridgment of their prerogative in conducting the examination of their students, and yet the post-graduate schools exist, by reason of the insufficiency of the large diploma-granting schools to adequately fit young men to practice medicine.

This criticism is not valid against the smaller schools, where the contact between student and teacher is intimate, and where it is possible to give the student a fair clinical opportunity. The letter of the recent graduate of a New York city school is not devoid of suggestion.

PROGRESS IN MEDICINE.

It gives us pleasure to announce that the corps of eminent collaborators, whose names were announced in the January number of the JOURNAL, has been enlarged by the addition of the following gentlemen, who have kindly consented to keep our readers abreast of the most recent advances in medical science in the departments in which they have respectively done such admirable and thorough work.

DISEASES OF THE SKIN.

Samuel Sherwell, M.D., Clinical Professor of the Diseases of the Skin, Long Island College Hospital; Attending Physician, Brooklyn Hospital; Surgeon to the Department of Diseases of the Skin and Throat, Brooklyn Eye and Ear Hospital.

DISEASES OF THE THROAT AND NOSE.

Thomas R. French, M.D., Clinical Professor of the Diseases of the Throat and Nose, Long Island College Hospital; Consulting Laryngologist to St. Mary's Hospital, Brooklyn.

DISEASES OF THE EYE AND EAR.

Richmond Lennox, M.D., Assistant Surgeon, Brooklyn Eye and Ear Hospital; Pathologist, New York Eye and Ear Infirmary.

SCOTCH OATS ESSENCE.

We take great pleasure in reproducing in the JOURNAL the article by Dr. R. G. Eccles on Scotch Oats Essence, which appeared in the April number of the *Druggists' Circular and Chemical Gazette*. Dr. Eccles is a Brooklyn physician and a member of the Medical Society of the County

of Kings, and is, besides, an accomplished chemist, so that his analysis may be accepted as accurate and reliable. Dr. Eccles deserves the thanks of the medical profession and of the public for this exposé, and we hope that he will continue the good work which he has so signally inaugurated, until all similar frauds cease to exist, or at least until they are made so odious that all reputable newspapers will decline to accept advertisements of them. *The New York Tribune* had the advertisement of this nostrum offered to it, and, believing it to be disreputable, declined it. We congratulate the *Tribune* on its independence, and wish there were more newspapers like it. The advertisement continues, however, to appear in one of the leading daily newspapers, although we fail to find in it any reference to Dr. Eccles' analysis. Is there not some law which will meet this case, and others like it, and is there not some law officer courageous and fearless enough to grapple with it?

THE AMERICAN MEDICAL DIGEST AND THE JOURNAL.

The Editor of the *American Medical Digest* announces to the readers of that journal the appearance of THE BROOKLYN MEDICAL JOURNAL in the following terms: "A few years since, a medical journal was announced in Brooklyn, under the title of *Vox Studentium*, a bright, scholarly production, which, as its title would indicate, had for its object the voicing the thoughts and exuberances of student life, as reflected in the hours spent at Brooklyn's institution for the advancement of the healing art. Again Brooklyn's medical dame has been delivered of a child "at term," and from the names responsible for its editorial future, we should judge that the conception and accouchement occurred near the same institution.

"The child, though only three months old, gives evidence of careful handling; and, as it has a large bank account deposited with its foster-brother, the Medical Society of the County of Kings, everything looks auspicious. May the future realize for it the success which its projectors prophesy, is the wish of *The American Medical Digest*."

We cannot understand how or where our friend, the Editor, received the information which he here gives the readers of his valuable journal. We fear he has not read the proceedings of the Society which honors him among its members; for, had he done so, he never could have fallen into the error which is so glaring, and so easily recognized by those who attend, even occasionally, its meetings.

The "institution" referred to is without doubt the Long Island College Hospital. Let us look for a moment at the list of "names responsible for its"—THE BROOKLYN MEDICAL JOURNAL'S—"future." Of the

five members of the Editorial Committee but two are connected in any capacity with this institution. One of the remaining three is one of its graduates. It would be just as reasonable to associate the *Medical Digest* itself with this same "institution;" and indeed, when we consider the composition of its staff, the family resemblance must, we think, to a disinterested observer, be far more apparent and striking. Its respected editor is one of the most prominent and honored of its graduates. The first name on its list of associates, or "collaborators," is that of a Professor in "Brooklyn's institution for the advancement of the healing art," the Dean of its college faculty, and also a graduate; the second name is that of one of its Clinical Professors; the third is that of a former Lecturer; the fourth, that of a former Adjunct Professor and also a graduate; the fifth, that of a graduate; the sixth and seventh are residents of New York City; the eighth is a Professor in this "institution;" the ninth is a graduate, and the tenth is also a graduate. Thus, of eleven "names responsible" for the management of the *Medical Digest*, nine are identified with this "institution."

Were it necessary, we could show that there is just the same relationship, and no closer one, between the *Vox Studentium* and THE BROOKLYN MEDICAL JOURNAL as there is between the Long Island College Hospital and THE JOURNAL; but we presume that it is only necessary to say that, so far as we know, no member of the present staff ever had anything to do with that journal in any capacity, and but one or two ever saw a copy of it.

We would say to our good friend, the editor, that the BROOKLYN MEDICAL JOURNAL is the offspring of the Medical Society of the County of Kings and not its foster-brother; and that, as a member of that society, he owns just as large a share as any one; that the Editorial Committee now in charge was placed in the position it now occupies at the unanimous request of the Council of the society, acting under the direction of the society; and that so long as the Committee is composed of its present members, it will have but one object constantly in view—the advancement of everything which pertains to the welfare of the medical profession in general, and especially that of Brooklyn. So long as the authorities of the Long Island College Hospital, or of any other hospital or institution, are in accord with this sentiment, so long will they receive the cordial co-operation of the JOURNAL; but should they propose or carry into execution any measures which we regard as inimical to the best interests of the profession, we should deem it not only our privilege, but our duty, to criticize their action.

BEER-DRINKING IN THE UNITED STATES.

Most of our readers will, we imagine, be as much astounded as we were, to learn that during a single year, that of 1886, there were consumed in the United States the enormous amount of 642,967,720 gallons of malt liquors, the consumption *per capita* of the proportion being 11.18 gallons. In a recent report on "Foods and Food Adulterants," issued by the U. S. Department of Agriculture, Mr. C. A. Crampton, chemist, says that "the production of malt liquors in this country as an industry is second only in importance to the production of bread-stuffs. Their consumption is steadily on the increase, as is also the amount consumed in proportion to other kinds of alcoholic beverages." Thus in 1840 the consumption of malt liquors in the United States was 23,310,843 gallons, or 1.36 gallons *per capita*, whereas, as has been already stated, nearly twenty-eight times as much was consumed in 1886. It is a matter of interest to know that great as this amount is, it is exceeded by several other nations. In the United Kingdom, 32.79 gallons were consumed in 1886 *per capita*, and in Germany, 23.78 gallons, while 11.18 gallons represents the *per capita* consumption in the United States. It is estimated that the money expended for beer in this country *per annum* is \$304,852,683. The further statement is made by Mr. Crampton that the *per capita* consumption of distilled spirits has decreased in the same period from 2.52 gallons to 1.24, or in other words, that the malt liquors have been driving out the distilled at the rate of about .05 gallon *per capita* each year, and supplanting them at the rate of about .38 gallon.

What the effect of this enormous consumption of beer is to be upon present and future generations, it is impossible to foretell. If we are to believe some of the statements which have been made by those who claim to have investigated the subject most thoroughly, and who have certainly had the best of opportunities for such an investigation, there is no ground for alarm. In 1886 the U. S. Brewers' Association published a pamphlet written by G. Thomann, entitled "The Effects of Beer upon Those Who Make and Drink It." In it the author advances the following propositions: 1. Brewers drink more beer, and drink it more constantly, than any other class of people. 2. The rate of deaths among brewers is lower by forty per cent. than the average death-rate among the urban population of the groups of ages corresponding with those to which brewery workmen belong. 3. The health of brewers is unusually good—diseases of the kidneys and liver occur rarely among them. 4. On an average, brewers live longer, and preserve their

physical energies better, than the average workmen of the United States. These propositions are the result of a study of statistics which have for five years been accumulated by physicians who have, during this period, had under their medical care 960 workmen engaged in the breweries of New York, Brooklyn and Newark. These records show that the death-rate of these men is 7.5 per 1,000. The U. S. census gives the rate per 1,000 of the urban population of the same ages, as 12.5, while that of the regular army of the United States is 10.9 per 1,000. Mr. Thomann tells us that the average daily consumption of malt liquors by each brewery-hand is 25.73 glasses, or about ten pints. A considerable number of the men drink fifty glasses a day, and two are reported as drinking on an average seventy glasses daily. One individual, fifty-six years of age, is specially referred to. This man has been uninterruptedly at work in breweries during thirty-two years, and has consumed throughout this period at the rate of fifty glasses *per diem*, amounting in all to 29,200 gallons, yet has never been sick, and was at the time the pamphlet was published healthy, vigorous and active. We had the curiosity to estimate the size which a cistern would need to be in order to contain all the beer consumed by this man during these thirty-two years, and find it to be 7 feet in height and 26.6 feet in diameter. In such a cistern 201 men could be placed, each one occupying 400 square inches of standing room. If into a cistern of this size, thus filled with men, the 29,200 gallons of beer should be poured, there would be more than enough beer to fill it. In fact this amount of beer would drown 275 men, of an average weight of 156 pounds, and, owing to displacement, would, with this number of men, fill a cistern 26.8 feet deep, and 31 feet in diameter. A friend, who has seen these figures, suggests that if the 275 men were of equal capacity with the brewery workman referred to by Mr. Thomann, they would never drown, but would drink the cistern dry.

There is one point which must be borne constantly in mind in the discussion of the question of the effect of beer-drinking on health; that is, whether the beer is adulterated or not. The brewers referred to by Mr. Thomann, probably, indeed almost certainly, consumed nothing but draught beer. The analysis of the Department of Agriculture failed to show any salicylic acid in such beers; while in thirty-two samples of bottled beers analyzed, seven were found to contain this acid. Of nineteen samples of American bottled beers, salicylic acid was found in six. These six include the product of some of the largest breweries in the United States. Dr. E. H. Bartley has repeatedly called attention to the fact that it has become a practice among

brewers to add salicylic acid to beer to prevent its fermentation, and to the additional fact that at least ten grains of the acid must be added to each gallon of beer to obtain the desired effect. He states that in large quantities salicylic acid acts very injuriously both upon the digestive processes and the kidneys, and that in its elimination the kidneys not infrequently become acutely congested and even inflamed, giving rise to acute Bright's disease. From all the facts at present at our command, it would seem to be advisable for those who drink beer to avoid the bottled-beers, unless they can receive some assurance, better than is now furnished, that the use of adulterants, especially salicylic acid, has been abandoned.

OUR EXCHANGES.

We are glad to see that the *Sanitarian*, which has always been edited in Brooklyn, has given up its New York office, and that hereafter Brooklyn will get the credit of publishing this admirable journal. The address of the *Sanitarian* will hereafter be 113A Second Place, Brooklyn, N. Y.

Babyhood for March contains an article by Jerome Walker, M. D., of Brooklyn, on "The Appetite of Children; its Use and Abuse," which he discusses under the headings of "Difference between Hunger and Appetite," "Causes of Spoiled Appetite," "The Abuse of the 'Animal-cracker,'" "Perverted and Ravenous Appetite," "The Promotion of Healthy Appetite," "The Most Important Dietary Factors."

PROCEEDINGS OF SOCIETIES.

THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

A regular meeting of the society was held at its rooms, 356 Bridge St., Tuesday evening, April 17th, 1888, at eight o'clock. Dr. Wallace in the Chair. There were about 50 members present.

The minutes of the last meeting were read and approved.

The Council declared the following gentlemen elected to membership:—Drs. H. B. Read and C. A. Canfield.

The following Doctors were proposed for membership: George V. Rockville, 226 McDonough St., Bellevue, 1883; proposed by Herbert F. Williams, M. D., seconded by Dr. W. M. Hutchinson.

L. E. Meeker, 956 Gates Ave., Detroit Medical College, 1872; proposed by Dr. J. H. Hunt, seconded by W. M. Thallon, M. D.

Henry H. Morton, 226 Clinton St., L. I. C. H., 1882; proposed by Gordon R. Hall, M. D., seconded by W. M. Thallon, M. D.

Frederick J. Bruce, 387 Ninth St., L. I. C. H., 1887; proposed by Dr. J. A. McCorkle, seconded by Chas. E. De La Vergne, M. D.

John E. Dusseldorf, 620 Carroll St., L. I. C. H., 1887; proposed by J. A. McCorkle, M. D., seconded by Chas. E. De La Vergne, M. D.

J. L. Carney, 1158 Bedford Ave., L. I. C. H., 1888; proposed by J. A. McCorkle, M. D., seconded by Chas. E. De La Vergne, M. D.

Eliot Gorton, 137 Clinton St., L. I. C. H., 1888; proposed by J. A. McCorkle, M. D., seconded by Chas. E. De La Vergne, M. D.

Joseph H. Marshall, 532 Monroe St., N. Y. University, 1887; proposed by T. W. Topham, M. D., seconded by W. J. Cruikshank, M. D.

Chas. S. Fischer, L. I. C. H., 1887; proposed by Frank E. West, M. D., seconded by J. A. McCorkle, M. D.

John Morgan, 141 Montague St., L. I. C. H., 1880; proposed by L. C. Gray, M. D., seconded by Ernest Palmer, M. D.

The Council reported for election to membership the following gentlemen:—Drs. Benjamin Burroughs, Frank Baldwin, G. N. Ferris, C. C. Holton, C. H. Shepard, H. A. Tucker, Jr., H. P. Dawes.

SCIENTIFIC BUSINESS.

The first paper of the evening entitled, "Clinical Notes on Strophanthus, Agaricine and Paraldehyde," by Dr. Glentworth R. Butler, was read and discussed by Drs. Thallon, Williams, and Eccles.

The second paper of the evening, by Dr. George B. Fowler, of New York, entitled "Digestion and Diet: Their Relation to the cause of Disease," was then read.

This paper was discussed by Drs. Walker and Eccles.

There being no further business, on motion the meeting adjourned.

W. M. HUTCHINSON, M. D.,
Secretary.

PROGRESS IN MEDICINE.

SURGERY.

BY GEORGE R. FOWLER, M. D.,

Surgeon to St. Mary's Hospital, and to the Methodist Episcopal Hospital, Brooklyn.

RECENT ADVANCES IN THE SURGERY OF THE BRAIN AND ITS COVERINGS.

Dr. Charles B. Nancrede, in the annual oration delivered before the Philadelphia Academy of Surgery (*The Medical News*, Philadelphia, January 28, 1888) says, that, while of unusual occurrence, the smallest scalp-wound, if it become infected, may by progression of the septic inflammation lead to periostitis, purulent otitis, osteophlebitis, encephalitis; or again, from the periosteum the infective process may, by continuity of tissue through osteophlebitis, initiate thrombosis of the cerebral sinuses with consequent pyæmia. By the light thrown by experiment and confirmed by recent experience, we must entirely revise our conclusions as to the danger of trephining *per se*, or of converting a simple fracture into a compound one. Roberts' proposition should now meet with general acceptance. Wagner has recently said, "The entrance of foreign bodies and injuries from unclean objects, therefore, indicate the use of the trephine," because, "it is of far greater importance to prevent the infection of the intra-cranial tissues, than to relieve the brain from pressure." Preventive trephining, when put at once into practice, gives a mortality of only 1.23; whereas, when delayed twenty-four hours or more, the death rate is 33.33 per cent. Wagner has further shown that all the cases under his care of fractured base which survived the first twenty-four to forty-eight hours—23 in number—recovered. These results can only be obtained by attention to the following precautions: The external auditory canal traversed by the line of fracture, must be cautiously and effectively disinfected, filled with iodoform, and plugged with antiseptic gauze. If the ethmoid be fractured, iodoform should be insufflated into the upper part of the nasal cavity. Accessible portions of the base should be trephined. In fracture of both walls of the frontal sinus, thorough disinfection of the sinus should precede perforation of its posterior wall, and after the operation the cavity should be loosely packed with iodoform gauze. The orbital margin should be resected when necessary, to remove infected material or foreign bodies.

If the mortality be so low for operations when no injury exists (1.60 per cent. in trephining for epilepsy, neoplasms, etc., according to Seyder),

how much more imperative should it be to trephine immediately in recent compound and even simple, markedly depressed vault fractures, except in young children.

As to drainage; wounds of the dura which cannot be sutured, as well as in trephining for intra-cranial abscess, indicate tube drainage. In all other cases, catgut capillary drains answer best.

Bone fragments, which have been removed, when contaminated, should be placed in a warm antiseptic solution, and, after removing all sharp edges, or in certain instances, minced up with a chisel and replaced. MacEwen, Wier and others have shown the feasibility of this procedure and its advantages in preventing hernia cerebri.

In gun-shot wounds, the same general principles governing other compound fractures obtain. Wharton's tables show that balls should always be removed when fatal injury of the encephalon is not involved in the operation. Flueher's gravity probe will facilitate the search for the missile.

In osteophlebitis from contusion or disease, as evinced by the puffy tumor of Potts, or other signs of bone inflammation, the bone should be trephined, or otherwise freely removed, the diseased area thoroughly disinfected, and strict asepsis maintained. Horseley recently successfully operated in a case in which thrombosis of the lateral sinus, and septic embolism existed originating, as is usually the case, from old middle-ear disease.

In malignant growths of the skull, if the necessary operative interference be not specially dangerous to life, it should be attempted. Gussenbauer, for a sarcoma of the frontal bone, reflected a flap from the forehead, and with chisel and forceps removed the frontal bone over an area measuring 3 by $3\frac{1}{2}$ inches, detaching the growth at one point from the dura. Two years afterwards no recurrence had taken place. Paully removed a portion of the frontal bone for fibrous sarcoma. In two months the growth returned. Curetting failing to be of benefit, six months later the frontal bone was removed from the root of the nose to the zygoma and up to the hair line; in one month the wound was quite healed. Krönlein successfully removed a cancerous ulcer two and a half inches wide, extending from the root of the nose, beyond the line of the hair, including a piece of bone and dura mater and nearly half an inch of the falx cerebri. Two months later the patient succumbed to a second operation, which became necessary on account of the return of the growth.

In intracranial hemorrhage, Cecherelli, Krönlein, Weisman and others have presented an overwhelming mass of evidence to show that operative interference is both justifiable and advantageous.

Anæsthetics are usually unnecessary on account of the semi or com-

pletely comatose condition of the cases. From Eodlee's experience, chloroform is certainly contra-indicated, and ether, in N.'s judgment, is prejudicial.

When trephining for intracranial hemorrhage, it is better to make two openings, should the first fail to reveal the source, the one from an inch and a quarter to an inch and a half behind the external angular process of the frontal bone on a horizontal line drawn around the skull, at the level with the upper margin of the orbit, parallel with "Reid' base line," and the second on the same line just below the parietal boss. Weisman shows that of this class of cases, those treated upon the expectant plan gave a mortality of nine-tenths, while of those operated upon, only one-third died. In the treatment of the hemorrhage, after discovering its source, if it be in the dura, the vessel may be secured, acupressure may be practiced, or a red-hot knitting needle applied; if it be in the pia mater, *serre-fines* applied and left until spontaneously separated may be tried. Tampons may be used; compression of the common carotid, or even ligature of this vessel, may be resorted to.

In draining brain abscesses, if the first trephine opening is not favorably situated, a second at the most dependent portion of the cavity should be made, the first being closed by its own button of bone. The tube should be very gradually shortened. In operations for intracranial suppuration following middle-ear disease the trephine should be applied one and one-fourth inches above, and the same distance behind the center of the cartilaginous external auditory meatus. Through this perforation the pus must be sought for by an aspirator needle. When the pus is found the track of the needle may be arranged by a curette and a tube passed.

Encouraged by Horseley's success in excising brain scars for epilepsy, Hughlings Jackson has suggested the propriety of removing the seat of "the discharging lesion" in cases where the spasms begin "very locally, deliberately, and when the fits are often repeated." Both Horseley and MacEwen have operated upon cases where the theoretical advantages of this suggestion have been essentially proven.

HYDROCELE NEONATORUM.

W. Wechselmann (*Archiv f. Klinische Chirurgie*, Band 36, 3. Heft, 1887), in an exceedingly able paper upon this subject, gives the results of his observations during four months of service at the Royal Hospital, Dresden. Most of the children were only under observation for from nine to eleven days. Of two hundred and seventy infants examined for this condition, in thirty-seven it was found to be present; fourteen of these communicated with the peritoneal cavity, and twenty-three

were confined in the tunica vaginalis. In all but two instances the affection was upon the right side, and these were of the communicating variety. In four cases the disease was bilateral, one of which was a communicating hydrocele, and three were confined in the sac. In the majority of these cases the hydrocele did not exceed the size of a cherry; others, however, were as large as a plum.

W.'s statistics are of interest, inasmuch as they are at variance with the opinions held upon this subject by most authorities. Baginsky, for instance, asserts that hydrocele among children is in the great majority of cases congenital, and very seldom acquired in the early years of childhood. On the other hand, Hunter says, "Hydrocele acquired in the early periods of life, receives the name of hydrocele congenita; this, however, is incorrect. . . . No obstetrician, even if he has handled several thousand children immediately after birth, will have observed in them hydrocele." Schrumpf made a special study of the cases of hydrocele at Strassburg, during three years' service in Lücke's clinic and at the lying-in asylum, and did not observe a single case. Tarnier, again, declares the affection in question to be not rare, and that it is mostly seen on the second or third day after birth. English writers only acknowledge those hydroceles to be congenital which communicate with the peritoneal cavity. Pitha, König, and Kocher adopt this definition. Bokai has shown that it is only by a malformation of the proc. vaginalis that a congenital hydrocele can occur, a communication existing for the first few months after birth between the cavity of the peritoneum and the hydrocele. That the variety known as the isolated, or that which partakes of the characteristics of the acquired form of the disease is found at birth, is shown by Schegar, who saw a hydrocele of this character in a dead infant born at full term. Von Ammon has also observed such cases. Favignot even claims that this occurs in the great majority of cases of hydrocele neonatorum, as well as in cases occurring in adults. Legendre reports the case of a fully developed infant which breathed a short time after birth, in whom he found a perfectly developed hydrocele on the right side, the cavity of the tunica vaginalis *not* communicating with that of the peritoneum. Although it is an established fact that the closed variety may be found immediately after birth, it is yet an open question whether or not it really occurs in intra-uterine life. It is more than likely that it occurs during or after birth. If children delivered by the Cæsarian section are found to have the isolated variety of the disease, less doubt might be entertained as to its strictly congenital origin.

One can easily understand, when reflecting upon the differences of opinion regarding the occurrence of hydrocele neonatorum, how, on the one hand, many cases of slight effusion in the tunica vaginalis.

testis might be overlooked; and, on the other hand, an observer interested in the subject might describe cases as of this character, when dissection or aspiration would disclose an insufficient amount of fluid to render the case worthy the name of hydrocele. The effusion may be the result of injuries received during the labor, and may be slow or rapid in its development and varying in amount, thus escaping the notice of one not particularly interested in its discovery. Again, the descent of the testicle prior to birth may be accomplished with much difficulty, owing to a disproportion between the inguinal canal and the testicle itself; failure of the latter to engage with its long axis parallel with that of the canal in its descent may likewise be the occasion of a sufficient amount of traumatism to produce a hydrocele. Tense conditions of the scrotum may conceal a very decided effusion, as observed by Bierbaum. Curling asserts that an arrest in the descent of the testicle may give rise to a hydrocele of the *proc. vaginalis* in the inguinal canal. Favignot saw a case in which the left testicle seemed to be absent; but a day later it had descended, together with a collection of fluid, into the *tunica vaginalis*; the latter could not be returned to the cavity of the peritoneum, showing it to be of the isolated variety.

The pathology of hydrocele neonatorum is somewhat obscure. W. suggests the possibility of an abnormal diminution of the amniotic fluid in occasioning undue compression of the thighs, and through them of the testicles. Pressure during labor has already been spoken of. Disturbances of the circulation have been suggested, but Naefel was unable to artificially produce a hydrocele by ligature of all of the afferent and efferent vessels. Klebs thought hydrocele to be due to an augmentation of the supply of arterial blood. The greater relative frequency of right-sided hydrocele is probably due to some peculiar developmental changes occurring during the descent of the testicle. Petrequin has determined, from a study of a large number of cases, that cryptorchidism occurs also in the majority of cases on the right side. Butha and Hennsch confirm this statement. Petrequin suggests that this may be due to the entanglement of the testicle in the course of its descent with the ileum. Campero states that the peritoneal portion of the *proc. vaginalis* on the left side will be found to be obliterated more often than that of the right (16 to 20). In an examination of one hundred dead children by Zuckerkandl, in thirty-seven the *proc. vaginalis* was found to be open; twenty of these were bilateral, twelve were right-sided, and five were left-sided. Campero, Hesselbach, Roser, and Engel confirm these observations. The relatively greater frequency of the right inguinal hernia over that occurring on the left side may be likewise explained by these facts.

THE RELATIONS OF THE PERITONEUM TO THE ABDOMINAL WALL, RECTUM, AND BLADDER, WITH ESPECIAL REFERENCE TO SUPRA-PUBIC CYSTOTOMY, AS SHOWN BY FROZEN SECTIONS OF THE MALE PELVIS.

Dr. Albert B. Strong, of Chicago (*Annals of Surgery*, Jan., 1888, p. 22). In performing supra-pubic cystotomy, to cut into the bladder without endangering the peritoneum or doing undue violence to the connective tissue back of the pubes is the important part of the operation. Whether this shall be done with the bladder empty or partially filled, either alone or in connection with a distended rectum, are mooted questions. Dr. Strong has studied the subject by the aid of frozen sections of a number of cadavers. The rectum was distended by means of a rubber bag filled to a greater or less extent with water; the bladder was directly injected. The following conclusions are submitted: 1. In the normal condition, the bladder and rectum being empty, the apex of the bladder and peritoneal reflection are a little above the arch of the pubes. 2. In moderate distension of the bladder, the anterior reflection is below the apex; with the same degree of distension and the bladder pressed against the abdominal wall, the peritoneum ascends higher. 3. Supra-pubic cystotomy can be most easily and safely performed when the bladder is lifted from the pelvic floor and moderately distended against the abdominal wall. 4. Distension of the rectum alone elevates the base of the empty bladder, but does not raise materially the vesico-abdominal fold of peritoneum. 5. Distension of the bladder alone, in thin subjects particularly, requires relatively a greater amount of fluid to elevate the peritoneal reflection. The bladder is not crowded against the abdominal wall, but rather falls away from it. 6. Moderate distension of both rectum and bladder meets the indication the best; from ten to twelve ounces in the rectal bag and from eight to ten in the bladder are generally enough, and seem to be a safe quantity to use. 7. Dilatation of the rectum first and the bladder afterwards lifts the peritoneal reflection the highest. 8. The object of the rectal bag is to elevate the distended bladder and press it against the abdominal wall, and so crowd up the peritoneum. 9. To meet the indication, the gut should be dilated from the anus to near the promontory of the sacrum. 10. The rectal bag should be sausage-shaped, of rather thin rubber, rather than pyriform and thick, for thinness enables it to follow the gut, and the shape makes uniform pressure throughout the entire length. 11. In a very fleshy subject, with a flabby or pendulous belly, the bladder is relatively freely movable. In such a case it will easily rise out of the pelvis against the abdominal wall, when alone only moderately distended with water; the rectal bag may then be safely dispensed with. 12. Air injected into the bladder of a subject lifts the bladder

and its peritoneal reflection out of the pelvis better than water. 13. In one case the gut was ruptured opposite the promontory of the sacrum, with twenty-three ounces in the rectal bag; in no case was the bladder ruptured. 14. In the cases reported an average of fourteen ounces in the rectal bag and twelve in the bladder elevated the anterior peritoneal reflection an average of one and one-half inches above the crest of the pubes; the apex of the bladder was one inch higher.

The *Archiv. f. Klinische Chirurg.*, Band 32, Heft iii., 1885, contains an article by Dr. Fehleisen, of Berlin, upon "Displacement of the Urinary Bladder by Tamponing the Rectum." Essentially the same conclusions are arrived at as by our author, who calls attention to the fact in a foot-note. Petersen, whose studies upon this subject are almost classical, arrived at similar conclusions; he advises, however, that the bladder be first injected, then the rectum. It would seem best, however, as recommended by both Fehleisen and Strong, to first fill the rectum and then the bladder, thus throwing the strain more on the rectum and elevating the fundus vesicæ better. Both of the latter observers likewise agree that a better result is secured with stout than with thin subjects.

A METHOD FOR FRAGMENTARY REMOVAL OF GOITRE WITHOUT TAMPONING
AND WITHOUT DANGER OF HEMORRHAGE.

Dr. Eugene Hahn (*Archiv. f. Klinische Chirurgie*, Band 36, 3, Heft, 1887,) describes the following operation. The entire blood supply of the gland is first cut off by ligating in succession the left superior thyroid, the left inferior thyroid, the right superior thyroid, and the right inferior thyroid. The superficial veins are likewise ligated, as the primary incision (upon Kocher's lines, described at the twelfth German Surgical Congress,) is made. The investing capsule is then incised, and by means of strong tenacula the diseased gland is brought into view. H. now proceeds to tear it out piecemeal with pliers, with the exception of a small portion of the glandular structure, which is intentionally left behind.

The fragmentary tearing away of the tumor, which is essentially the new feature of H.'s operation, possesses the merit, as claimed by its originator, of allowing of the removal, at will and in layers, of a greater or less portion of the gland. The intentional restriction of the extirpation of the gland to but a portion of its structure is found to be desirable, and in fact almost a necessity, inasmuch as it has been determined, by a number of experienced operators, that total removal of the thyroid body was followed, in a large proportion of the cases operated upon, by a rapidly developed and fatal strumous cachexia. The fact that a strumous cachexia exists in districts where goitre is

endemic, was at first thought to account for its occurrence. But the fact that this unfortunate sequel also occurred in regions where cretinism was not prevalent, fifty per cent. of the cases operated upon falling victims to it; and, in addition, the observations made by Horsley, showing that myxœdema followed total removal, and the results of the experiments of Canalis, Coltzi, Schieff, Wagner, Zesas and others upon the lower animals, which succumbed in from eight to twenty-one days after total extirpation, all go to show conclusively that the entire removal of the thyroid body is not a justifiable operation. Among other plans recommended for partial resection may be mentioned Mickulicz's, in which ligature *en masse* of the lateral portions, leaving behind the ligature more or less of the gland tissue itself; Wolff's plan of scraping away the tumor, the hæmorrhage being controlled by means of continued tamponing; the ligature of the afferent arteries as suggested by Woelfler, and that proposed by Socin and Garré, of peeling away the goitre from its capsular attachments. This latter procedure is similar to that pursued by Burckhardt. All of these methods have been followed out more or less successfully.

ICHTHYOL IN SURGERY.

Dr. Edward Martin (Journal American Medical Association, Feb. 18, 1888,) says: Clinically, the ichthyolates are described by Unna as being powerful antiphlogistics, causing anæmia and rapid subsidence of swelling in all tissues. This antiphlogistic effect is ascribed to the drug's action on the endothelium of the blood vessels, depriving it of oxygen in virtue of its reducing properties, and contracting the lumen of the vessels. This explanation is not, perhaps, entirely satisfactory, but physiological studies have not yet given us a better one. The cornifying effect of the drug upon the rete is undoubted.

Lartigueau states that the drug is indicated in all subcutaneous and inflammatory tumefactions, œdemas, vascular dilatations, incipient furuncles, and local manifestations of rheumatism. Elliot, in five per cent. solutions, finds it efficacious in burns of the first and second degree. In varicose ulcers, associated with eczema rubrum, he has known it to produce marvellous results. Schweningar states that in rheumatism, lumbago, tic, gout and migraine, local applications of ichthyol act more powerfully in allaying pain than any known medication. Lorenz found that after a few rubbings with fifty per cent. ichthyol compounds the pains of rheumatism, mastitis, panaritis, and contusions were allayed and healing hastened. A ten per cent. solution hastens the cicatrization of badly healing ulcers. Von Nussbaum states that a single application of ichthyol one part, water four parts, lanolin five parts, has allayed the obstinate itching of eczematous ulcers.

Erysipelas is promptly aborted by spreading over the diseased parts a thick layer of ichthyolate and vaseline, equal parts, and covering with a thick layer of salicylate or other cotton. Stelwagen reports excellent results in the abortion of furuncles. D. Hayes Agnew has had particularly good results in enlarged lymphatics of recent or inflammatory origin by the local application of equal parts of sulphichthyolate of ammonia and iodide of lead, covered by oiled silk.

An analysis of the cases in which it has proven serviceable will show that they can be relegated to one of two classes. 1. Affections characterized by inflammatory enlargement; and 2. Affections characterized by pain of peripheral origin, probably depending on inflammation or congestion.

The praises bestowed upon this drug are most extravagant, and should, in the opinion of the abstractor, be taken *cum grano salis*. It may be useful in allaying inflammatory pain, and may even assist in the resolution of subcutaneous induration, but inasmuch as most inflammatory affections of the subcutaneous cellular tissue have a self-limited course, there is always ground to suspect the vaunted advantages of much lauded remedies. In the case of acutely enlarged lymphatic glands, it is more than likely that whatever advantages are derived from its use are to be attributed to its influence upon the peradenitis, rather than upon the glandular structure itself; if this were not true, chronic lymphadenitis would be benefited by its use, an effect not claimed for ichthyol.

THE TOPICAL APPLICATION OF TURPENTINE TO RECENT WOUNDS.

Dr. Robert B. S. Hargis (Medical News, Phila., March 3, 1888,) has for many years applied the oil of turpentine to almost every case of external injury involving a solution of the continuity of the surface, with the effect of preventing suppuration and sepsis, and hastening the process of repair. The usual preparatory treatment, including thorough cleansing, the arrest of hæmorrhage, free lavation with hot water, drying of the wound, accurate adjustment of its edges, etc., precedes the application of turpentine, which is applied upon pledgets of absorbent cotton, and held in place by means of muslin rollers. A compound of one part of turpentine and two of linseed oil, thoroughly mixed, is now applied over the site of the wound, over the external dressings, and reapplied at intervals. He claims that the oil of turpentine prevents the free exudation of serum, which generally flows for some time after amputation, and always deprives it of putrefactive and irritating qualities.

In view of Holmfeld's experiments with the oil of turpentine and its influence upon fresh colonies of *micrococcus prodigiosus* and *staphylo-*

coccus, in which it was shown that the latter were neither destroyed nor even inhibited in their growth by this agent, it is difficult to account for this action of turpentine in protecting fresh wound surfaces from infection, unless it be shown that, like iodoform, in its contact with wound surfaces and their secretions, certain compounds of a germicidal character are brought about by combinations with the cadaveric alkaloids or ptomaines existing in the latter.

THE GALVANO-CAUTERY IN THE TREATMENT OF ENLARGED TONSILS.

Dr. H. Potter (Medical News, Phila., March 10, 1888,) asserts that the dangers of tonsilotomy are entirely dependent upon the hæmorrhages, and urges as a substitute therefor a removal of a slice of the tonsil with the galvano-cautery wire loop, or, what he prefers, ignition with a sharp-pointed electrode. While it is urged against this latter method (from five to ten sittings being required) that it is slow and tedious as compared with the cutting operation, yet we should likewise consider that increase in the rapidity of the operation is attended with an increase of the danger. It is remarked that any operation done well is done soon enough.

In the experience of the abstractor it has been found extremely difficult to induce children to submit to an operation upon the tonsils which is a repetition of any operation previously performed upon the same individual. Cases of alarming hæmorrhage after amygdalotomy have been confined to adults, and for these he now prefers the use of the galvano-caustic wire loop. The administration of a whiff of chloroform to children and the adjustment of the wire, removing as much of the tonsil only as is needful to well clear the fauces, inasmuch as the stump left after a cautery operation becomes smaller as the cauterized layer lying to the base side of the loop separates, will render this operation as desirable for children as for adults. The operation of removal of the tonsils, by any method, instead of being viewed as a slight operation, should be looked upon as a procedure for which as much preparation is to be made as for the removal of any tumor of the surface, to say the least, instead of being spoken of as "not much more than the pulling of a tooth," etc.

INGUINO-PROPERITONEAL HERNIA.

Dr. William Stone Torrey (Annals of Surgery, March, 1888,) reports the case of a man aged 30, a horse-shoer by occupation, the subject of a strangulated hernia of this variety upon the right side, complicated with a hydrocele of the left side. Upon attempting taxis under an anæsthetic, the hernia could be apparently reduced, but upon such reduction, a swelling in the abdominal wall on the same

side, as large as the hand, just above Poupart's ligament and midway between the crest of the ilium and the linea alba, was increased in size. This was resonant upon percussion, and tense but elastic upon palpation. Upon removal of the taxis, the tumor in the scrotum immediately returned. Herniotomy was performed. Upon making the incision the hernia was found to be of the congenital variety. The testicle was well down in the scrotum. The portion of peritoneum constituting the sac, and which had been forced from the usual location in the inguinal canal into a space between the transversalis fascia and the superimposed abdominal walls, was found to be intimately adherent to the latter. The intestine was also adherent to the walls of the sac. The intestine was in good condition and readily reduced after relieving a constriction at the internal ring by the herniatome. The patient was very imprudent, and died ninety hours after the operation, the bowels having in the meanwhile moved freely and spontaneously. The patient left his bed for the purpose of having this evacuation, and almost died of heart failure as a consequence. A second attempt of this kind resulted fatally.

The diagnosis of this condition will be very obscure, and must always remain to a greater or less extent a matter for conjecture. It is of vital importance that the pathological condition be recognized during the performance of an operation. A case is recorded in which the condition was not recognized, the gut having been supposed to be returned to the abdominal cavity. The autopsy revealed the fact that the operation had only opened a sac in the inguinal canal, a properitoneal sac containing a loop of intestine being found between the transversalis fascia and parietal peritoneum.

REVIEWS.

EUTHANASIA, OR MEDICAL TREATMENT IN AID OF AN EASY DEATH.

By William Munk, M.D., F.S.A., Fellow and late Censor of the Royal College of Physicians, etc., etc. Longmans, Green & Co.: London and New York, 1887.

This interesting essay, by an intelligent and kind-hearted old London doctor, will be read with pleasure and with profit by the profession. We cannot too often be reminded of our duty to prevent, as far as possible, all unnecessary suffering during the last mortal hours of our patients, and Dr. Munk enjoins that duty most impressively and intelligently. He divides his essay into three parts :

- 1st. On some of the Phenomena of Dying ;
- 2d. On the Symptoms and Modes of Dying ;
- 3d. On the General and Medical Management of the Dying.

Passing over the first two for want of space, but remarking that, although brief, they contain much clear and valuable statement, we proceed to quote several observations in the last division of the essay which, if not novel in idea, are somewhat so in exposition, and have an immediate interest to all active practicing physicians.

After speaking of opium as worth "all the rest of the *materia medica* at the bedside of the dying," and specifying its services as an anodyne to relieve pain, and as "a cardiac and cordial to allay that sinking and anguish about the stomach and heart which is so frequent in the dying," Doctor Munk amplifies his praise of the latter quality as follows :

"The value of opium in allaying pain, great as that is, is however second to its value in relieving the feeling of exhaustion and sinking—of indescribable distress and anxiety—referred to the stomach and the heart, which so often attends some part of the act of dying. To the practised eye, this condition is evidenced, as much by the pinched features, pallid complexion and *anxious expression of face*, as by any verbal complaint of the sufferer. Here the action of opium is that of a cordial in the fullest sense of the word. 'Of all cordials,' says Sydenham, 'opium is the best that has hitherto been discovered. I had nearly said,' adds he, 'that it is the only one.'

"Under the protection of an opiate," writes Dr. Heberden, 'the patient's strength has been kept up; and even in hopeless cases, in which the dying person is harrassed by unspeakable inquietude, he may be lulled into some composure, and, without dying at all sooner, may be enabled to die more easily.' I know of nothing in our attendance on the dying more gratifying than to witness the improvement in face, feature, and expression that marks the kindly action of opium under these circumstances. In an hour or thereabouts after it has been taken, some color returns to the face, the features lose somewhat of their sharpness, a placid expression replaces the look of anxiety, and the sufferer passes into an easy, gentle sleep, from which he awakes refreshed and comforted, and helped, as it would seem, to die more easily when his time arrives. Hufeland, writing at the end of a long professional life, did not hesitate to declare that opium 'is not only capable of taking away the pangs of death, but it imparts even courage and energy for the dying.' Opium must be administered in such doses as will appease suffering and disorder, and in this respect we are to be governed solely by the effect and relief afforded. The dose for an adult should be rarely less than a grain, but oftener more.

. . . . The effects of opium continue for about eight hours, and if this action is to be maintained, it should be repeated at intervals of that duration or somewhat less. The dose is to be governed solely by the relief afforded. Its effects are usually limited to relief of the pains or of the sense of sinking for which it has been given, producing no other effect on the system in general. 'It would seem,' says Sir Henry Holland, 'that the medicine, expending all its specific power in quieting these disorders, loses at the time every other influence on the body. Even the sleep peculiar to opium appears in such instances to be wanting or produced chiefly in effect of the relief from suffering.'

"Opium should always be given to the dying in its liquid forms, as the tincture or the liquid extract, or as morphine, of which I know of no preparation of equal value to the solution of the bimeconate."

For relief in gasping or spasmodic difficulty of breathing, whether dependent on the heart or the lungs, ether is specially indicated, and Dr. Munk has found it most efficient given in combination with a few drops of sulphuric acid, as in the acid infusion of roses or in the so-called ether punch of the following formula :

R	Aq. menthæ viridis,	-	-	fl. ℥vss.
	Sacchari,	-	-	℥ss.
	Acid. sulphurici diluti,	-	-	℥xl.
	Sp. ætheris comp.,	-	-	fl. ℥ij.

Misce, ft. mistura, pars quarta pro dose.

Among stimuli he considers Tokay as often more acceptable than any other wine, especially to those sinking from exhausting diseases, as hæmorrhage, profuse suppuration, and the like. It is best given with cream. The stimulus of such wines, including sherry and madeira, is longer maintained than that of other forms of alcohol. "Champagne is most refreshing, and is often eagerly taken ; but its effects are evanescent, and it needs repeating at shorter intervals than other wines."

The custom of excluding daylight as far as may be from the dying chamber, is a mistake. "If there is one thing about his surroundings which more often than any other is complained of by the dying, it is failing sight, of a darkness gathering over him, and a desire is expressed for more light."

The author condemns talking in an undertone or whispering in the presence of the dying, also interfering with the desire of the patient to throw off the bed clothes and lie with chest, arms, and legs exposed. "Inquietude and restlessness, especially in the half-conscious dying person, is often due to a distended bladder, and is at once quieted by the catheter. In others it is due to the weight of the bed clothes, and is relieved by lightening them"

We cannot better complete our necessary brief notice of this valuable essay than in the following words of its author :

“There is little to be found in medical writings on the management of the dying, or on the treatment best adapted to the relief of the sufferings incident to that condition. The subject is not taught in any of our medical schools, and the young physician entering on the active duties of his office has to learn for himself, as best he may, what to do and what not to do in the most solemn and delicate position in which he can be placed—in attendance on the dying and administering the resources of the medical art, in aid of an easy, gentle, and placid death. The whole subject of the euthanasia, or of a calm and easy death, in so far as it respects the physician, is in need of special study, and of a systematic treatment that has not hitherto been accorded to it.”

CORRESPONDENCE.

A CASE OF SNAKE-BITE IN ATLANTA, GA., TREATED BY INJECTION OF PERMANGANATE OF POTASH.

To the Editors of THE BROOKLYN MEDICAL JOURNAL :

I received yesterday your note, asking me to give you the facts in regard to a case of snake-bite which recently came under my care in this city. On the 27th of this month, Mr. M. B. S., who works at the Southern Express office, was bitten by a rattlesnake that lay concealed in a crate of cabbages. The cabbages were shipped from Jacksonville, Florida, and Mr. S. was moving them preparatory to their delivery to a commission merchant. As he placed his hand on the crate he felt a stinging sensation in one of his fingers, and saw that a huge snake had fastened its fangs in his flesh. In a few seconds the hand and arm began to swell, and he was brought to my office. On examination, I found that the fang of the snake had penetrated the anterior portion of the end of the third finger, and a ligature was tied tightly around the finger below the first joint immediately, which strangulated the circulation. The patient came directly to my office, only a few blocks off, and so soon as a solution of permanganate of potash, grs. ii. in distilled water, f. 3 i., could be made by the druggists nearest to me, the quantity contained in an ordinary hypodermic syringe was injected, by passing the needle through the orifice left by the fang. The ligature was then released, and the patient made great complaint of the pain in the part, from the medication, for a few minutes. There was

a dusky ashy hue extending around the point where the injection penetrated, which gradually passed away, and in course of fifteen minutes there was no further notable effect of the bite or of the injection. Some swelling of the finger and arm occurred during the following day, as I was told by his brother, who came to report his condition; but it was not requisite for me to see him again. I should state that he took the aqua ammonia in doses of fifteen drops every hour during the afternoon of the bite, but there were no indications of the effects of the poison requiring this remedy, and it was only used from prudential considerations.

I have presented the facts observed during my residence in Brazil, as to the efficacy of the hypodermic use of a saturated solution of the permanganate of potash in the bites of all venomous serpents, to the medical class of the Southern Medical College, in each course of lectures for the four sessions I have been connected with this institution. It is not, therefore, a new measure to me, though an occasion has not been afforded here previously of making a practical demonstration of its virtues. I don't know that any publication has appeared in this country in regard to it; but it was so generally known among the people in Brazil for several years before I left there, that it was a common practice among hunters in the forests to carry with them a vial of the permanganate solution and a hypodermic syringe to meet any emergency from the bite of a snake. It has been found that a timely use of the injection prevents any bad effects from the poison, and even after it has been absorbed the antidotal property of the permanganate of potash modifies its action to such an extent that no serious consequences ensue from the bites of serpents even more venomous than the rattlesnake.

In the present case it was not a snake of the *crotalus* class, as stated, but one with dark and yellow spots, as reported to me; and though it was doubtless a venomous snake, I had no apprehension of a fatal result.

The notice of my treatment in this case through the newspapers is calculated to attract some attention, and I am pleased to have an opportunity to present this matter to the profession, not as an experiment, but as a medical agent which has been fully tested by a number of practitioners in Brazil.

The government allowed Dr. Lacerda, of Rio de Janeiro, \$15,000 as a bonus for the discovery of its virtues, some ten years ago.

At least a year before the announcement that Prof. Lacerda had received a reward from the Brazilian government for his successful treatment of snake bites, the formula used by him had been discovered by Dr. G. H. Tichenor, of Baton Rouge, and published by him in one of the leading medical journals of the country. It is clear, therefore, that

Dr. Tichenor and not Prof. Lacerda is entitled to the credit for the first discovery of the remedy now credited to the latter. The Brazilian authorities and Prof. Lacerda are aware of this fact.

The patient came to my office this morning with his finger somewhat swollen and with slight ecchymosis around the wound, but this may be the effect of the injection and not a local effect of the poison.

I am very truly,

J. McF. GASTON, M.D.,

25 1/2 Reachton St.,

March 31st, 1888.

Atlanta, Ga.

A DAY AT ST. BARTHOLOMEW'S HOSPITAL, LONDON.

To the Editors of THE BROOKLYN MEDICAL JOURNAL.

In that part of London called Smithfield, there is a quadrangular structure, surrounded by smaller buildings, the western gate of which faces the large square in front of the great market. These buildings seem to be the centre of a life peculiar to themselves, the nature of which, to a layman, would perhaps be a matter of indifference, but which, to a medical man, is of the highest interest and importance, for this is the ancient and honorable institution of St. Bartholomew's Hospital and College, the oldest and wealthiest of London hospitals. Near the western gate is the patients' entrance, where, daily, from morning till night, may be seen hundreds of London's poor seeking medical aid. In seeing this crowd, it is but natural to compare the work of the past with that of the present, and to wonder if, in those far off days, the founder ever imagined the gigantic dimensions to which his work would reach, for that, which once gave aid to the few, now offers relief to the many. With the advance of medical science the work at St. Bartholomew's has ever kept apace. While it has, of course, profited by the results of general scientific investigation, it has contributed very greatly to the furtherance of medical study. It is essentially an institution of traditions; it has a past life and it guides the present by that past. Each generation of physicians and surgeons, recognizing in turn the debt which it owes to the future, has worked to-day for to-morrow, so that the great teachers of the past are familiar by name and by work to the men of the present. The student commencing his medical career becomes in fact a son of St. Bartholomew's, and, imbued with the best part of the institution's history, knows full well that he may become in time its senior physician or surgeon, for positions of the hospital staff are

held by the college men. Thus the visiting become one large family or, more properly speaking, two families—one medical and one surgical—each with its elder brother, the senior visiting. The limitation of age enforces his retirement, and his colleagues move one step forward, creating a vacancy, the junior assistant, which is filled from one of the recent graduates.

The work of the great masters of the medical art is ably carried on by their successors; the small hospital has become the great hospital; the number of students has increased to five hundred, until to-day it would be difficult to find any part of the British dominions where an alumnus of St. Bartholomew's did not in part represent the medical profession. All this has required more than seven hundred years for its accomplishment. Let us see what the successive steps have been.

We learn from an ancient chronicle that there was at the court of King Henry I, "a pleasant witted gentleman, otherwise in his time called the king's minstrel." This was Rahere, whose tomb is in the church of St. Bartholomew the Great. In course of time, Rahere, becoming "mercifully converted from the error of his ways," determined to go to Rome on a pilgrimage "counting in so great a labor to do the worthy fruits of penance." While there, evidently near the termination of his visit, he became very ill, "being vexed with grievous sickness." When all hope of his recovery had been abandoned, Rahere vowed, if his life were spared, to return to London and found a hospital "for the recreation of poor men." He recovered. On his homeward journey he had a strange vision, in which it seemed as if he were carried to a great height by a certain wonderful beast, and was about to be hurled down into a deep pit. He called out loudly for aid. A man of "beauty and imperial authority" appeared before him, and asked how much service he would render to him who would aid him. Rahere's answer was: Whatsoever might be of heart and of might diligently should I give to my deliverer. He was then told that his visitor was Bartholomew, whose desire it was that he should establish in Smithfield a hospital for the relief of the sick, and a priory for prayer and meditation. Soon after his arrival in London, Rahere, by permission of the king, founded in 1123 the hospital, and subsequently the priory, giving to both the name of the saint to whom he owed his deliverance. Thus from the beginning St. Bartholomew's was a hospital for the sick and not a mere almshouse. It possessed certain property given by benefactors; had a master, eight brethren and three sisters; maintained itself in this way for four hundred years, when, in 1544, the hospital and its revenues came into the possession of King Henry VIII. This monarch is regarded as its second founder, from whom it received in 1547 a charter which states: It pleased the King's majesty of famous

memory to erect an hospital in West Smithfield for the continual relief and help of such as are sore and diseased. Its property was restored, from which, at that time, it received an income of £800. The management of the hospital was confided to a set of officials: hospitaler, rental clerk, butler and steward, porter, matron, sisters, and beadles. It was governed by a representative of the king. At the same time there were appointed "three chirurgeons in the wages of the hospital, giving daily attendance upon cures of the poor." The first physician was Dr. Lopus, appointed in 1566. He received forty shillings a year, a house and garden and certain allowances. The hospital now began its second career, with every opportunity for good work. Its beds numbered one hundred. It increased its building from time to time. Between 1725-1760 it was rebuilt from the foundations, and, with some modifications, the buildings then erected remain at the present time. St. Bartholomew's is the wealthiest of London hospitals. As such it occupies, with one exception, St. Thomas', an unique position. It has been said that the charities of London are the wonder of the world. The London hospitals are included among its charities, and are sustained by the English public. The majority of these are without endowment; while they give freely to the poor, they are supported by the rich. St. Bartholomew's gives everything and asks for nothing. In 1547 its income was £800; in 1837 it reached £30,000; to-day it receives from its own property £60,000. The management of such an institution becomes a great business. For many years it was one of the Royal Hospitals, but in 1782, became entirely separated from the crown. It is governed by a set of self-elected governors whose treasurer is the active business man of the institution. Since 1867 the president has been his Royal Highness the Prince of Wales.

It was said above that St. Bartholomew's was essentially an institution of traditions. The name and fame of those who have labored in its hospital are handed down from one generation to another as fondly cherished heirlooms. It was here that Harvey practiced for over thirty years, from 1609 to 1643. During this period he drew up a set of regulations, at the request of the governors, relating to the admission of cases and the length of time of treatment in the wards. These regulations are followed at the present time. Following Harvey came Radcliffe and Mead. In 1726 John Freke, serjeant-surgeon to Queen Anne, became surgeon, having charge of the museum, started at that time. Edward Nourse in 1734 delivered the first course of anatomical lectures. Perceval Pott for forty years was surgeon to the hospital. Then came the two Pitcairns, who, with Abernethy, established a more systematic course of lectures. Dr. William Austin delivered the first course of lectures on chemistry. Abernethy was appointed full surgeon in 1815. Sir William Lawrence became surgeon in 1824.

The commencement of medical instruction dates back many years, when the visiting had their own pupils. The medical school proper is not more than one hundred years old. New school buildings have been added from time to time. In 1876 the old structure was removed, and dissecting room, library, museum, and theatres rebuilt. A college was founded in 1843, giving some forty students the privilege of living within the walls of the hospital. The number of students is now five hundred. Ten months in the year are spent in study. This practically makes two terms in the year, for winter and summer terms are of equal importance. The London medical schools do not confer degrees or give licenses to practice. These are obtained at one of the Royal colleges or universities. The choice is optional with the student. Before entering a medical school he must pass a preliminary examination at one of the above institutions. By law four years must be spent in study; of this time two years and a half must be spent at a hospital medical school. The preliminary work is completed in two years. The final examinations are passed two years later, or four years from commencement of study. During this period the student acts as "clinical clerk" and "dresser." No student is eligible for the position of house surgeon or physician at St. Bartholomew's unless he is qualified to practice. Four house-physicians and ten house-surgeons are appointed annually, receiving a salary of £25.

The hospital now has 675 beds with a convalescent home near London of 75 beds. 8,000 patients are treated yearly in the wards. 15,000 attend as out-patients. 1,500 women are attended in their confinements, in their own homes. There are five surgeons and five physicians, each of whom has an assistant who has charge of out-patients. The physicians and surgeons are connected with the college, and, with lecturers on special subjects, are members of the faculty. There is a physician accoucheur, with an assistant and a resident midwifery assistant. There are special medical officers for diseases of the eye and ear; for dentistry; in the electrical department; and for the administration of anæsthetics.

Such, then, is St. Bartholomew's, past and present. A day spent in its hospital and college will give us an idea of the work and the workers of the present day.

We enter by the western gate, at the left of which is the porter's room, where one of these indispensable functionaries is always in attendance, ready to answer questions or to act as guide to visitors. Within the gate is the chapel of St. Bartholomew the Less. Further on is the great hall, forming the western boundary of the quadrangle within. Passing under this building, which contains the offices of the hospital, the house of the treasurer, and the large hall, in which are

several paintings, among them one of *Rahere* by Hogarth, we enter the quadrangle, three sides of which are formed by the larger ward buildings, four stories in height with basement. Each building stands alone, there being no connection between them. The four angles thus formed serve as passage ways to the college, the out-patient department, the residential chambers of the students, the operating theatre, and extra surgical wards. The post-mortem room is in the south-east corner, a considerable distance from the hospital buildings. The wards are large and airy, containing about twenty beds each, and having large open fireplaces. The medicine of each patient is kept on a shelf placed over the head of the bed. Great importance is attached to the history of each patient's case. The cases are recorded by the clerks and dressers, with notes added by the house-physician and house-surgeon, or by the visiting. To facilitate this work printed forms are used, which are kept by the bedside. There is nothing in any way elegant about the wards. They are plain and substantial.

The library room at St. Bartholomew's is the largest and handsomest in London. Here one may find the medical journals, and the standard medical works, with a large number of old and costly volumes, chiefly valuable as books of reference, all of which are for the use of students. This room, open daily from nine until five, is used as a study room, and every facility is given the student wishing to investigate any particular branch. In the same building are the anatomical and medical theatres, the dissecting room, the museum, and the chemical and pathological laboratories.

While the ward teaching at St. Bartholomew's is not as good as elsewhere in London, the instruction in the out-patient department is most excellent. The medical out-patients are seen daily by one of the first three assistant physicians, each of whom attends two days a week. To this department are appointed thirty-six clerks, twelve for each physician, who record the new cases. The work done here can be best appreciated by describing that of Dr. Norman Moore, the warden of the college. Dr. Moore is the best teacher of practical medicine in London. He is assistant physician, and also demonstrator of medical pathology. His teaching in the out-patient department is supplemented by a weekly lecture on the medical post-mortems of the week. Dr. Moore is the most careful teacher of the medical school. His great success lies in the practical character of his teaching. He is very popular and both clinics and lectures are well attended. The out-patients are seen from ten until eleven. From these cases he selects some ten or twelve for special instruction. Each clerk has thirty minutes in which to examine his case. At half-past eleven a true clinical lecture commences, which lasts about two hours. The patient is

brought before the class, the history is read, and the clerk is then asked to explain his diagnosis. Questions upon the disease under consideration are asked of the other students, and a short talk is given upon the case. Where the heart or lung is diseased, several students examine the case, and their diagnoses are compared. The clerk has the opportunity of suggesting treatment, and is able to watch the progress of his case. The department furnishes such an enormous number of cases that a systematic course of most valuable instruction may be pursued. Similar teaching is given in the surgical department.

Operations are performed every day, except Thursday. The spray is seldom used. The anæsthetic is given by a special administrator. In 1886 chloroform was used 1425 times; ether 1109 times: gas 385 times, and gas and ether 567 times. The arena is always crowded. In addition to the operator and his assistant, the table is always surrounded by a large number of on-lookers. This most objectionable practice is, however, not limited to the operating theatre of St. Bartholomew's. Antiseptic measures are used, each surgeon having his own practice.

The best day for a visit to St Bartholomew's is Thursday. The time would be spent something as follows: At nine o'clock there is a lecture, by either Mr. Langton or Mr. Marsh, on anatomy. At ten o'clock Dr. Klein, F. R. S. lectures on physiology. These lectures may be attended by a hundred and fifty men, mostly juniors. From eleven until one may be spent with the out-patients. At half-past one is held the "Surgical Consultation." For this custom St. Bartholomew's is indebted to one of its present surgeons, now occupying the position of chief consultant. This is Sir James Paget. London has so many eminent surgeons that a comparison is almost invidious, yet there are four men in active practice who stand as natural leaders. It is perhaps a little strange that two of them should be connected with St. Bartholomew's. Thirty years ago Sir James Paget, feeling that the members of the staff did not work together, suggested that a weekly consultation should be held, each member of the staff, surgeon or assistant, presenting any case upon which he wished advice. This, then, is the origin of this consultation, an institution which is unique, belonging alone to St. Bartholomew's, reflecting the greatest praise upon its originator, and thereby adding to the great debt of gratitude which the hospital and its surgical staff owe to this master of the surgical art. The consultations are held in the operating theatre. They are always well attended by students and members of the profession. One of the staff presents a case, giving the history. It is then examined by his colleagues, commencing always with Mr. Savory, senior visiting, and ending with the junior assistant, the examinations being made in order of seniority of appointment. Then the member of the staff presenting the case, states

his own opinion, and his plan of treatment, if he has any under consideration; or, again, he may ask for suggestions as to treatment. The opinions of his colleagues are then given, commencing and ending as before. The original diagnosis may be confirmed by all the surgeons; there may be a difference of opinion; the proposed plan of treatment may be considered as wrong; modifications or a totally different line of treatment suggested. One case may be given, showing how a patient was spared an operation. The case was one of epithelioma of jaw; the surgeon proposed to operate. The rest of the staff, while agreeing with the diagnosis, were strongly opposed to operation. Without a moment's hesitancy the surgeon accepted their unanimous conclusion. The advantages of the consultation are many. It enables the students to see how examinations are made, and to hear concise statements of diagnoses and plans of treatment. It enables the visitor to see ten prominent medical men at one time. But far greater than these is the inestimable benefit that patients receive, for where else can a poor man without money and without price, receive such undivided attention? About one hundred and fifty students attend these consultations; where are the rest? Dr. Mathews Duncan, F.R.S. has been delivering a course of lectures on diseases of women. Dr. Duncan is the only man, at St. Bartholomew's, whose position has not been attained by promotion. When, ten years ago, the position of physician-accoucheur became vacant, the governors gave a call to one who had never been connected with the institution. Dr. Duncan is *facile princeps* of the London obstetricians. During the winter term he holds a weekly clinic on diseases of women, his midwifery lectures being delivered daily during the summer session. At the same time as the consultation, four physicians have been visiting, each with fifteen or twenty students. The dissecting room, laboratories, etc., claim the rest. At three o'clock the visitor will attend Mr. Savory's lecture. Mr. Savory is the second surgeon that St. Bartholomew's contributes to the four great leaders of the London surgical world. As a teacher of surgery he stands unrivalled in Great Britain. To hear him is to spend an hour of pleasure and profit, whether one be interested in this department or not. As the hour strikes, the door leading to the area of the anatomical theatre is pushed back, and the lecturer, wearing a long black gown, the sign of his professorial rank, enters. We see a man a little over sixty years of age, of commanding presence, with smooth face, sharp eyes, and clear-cut features. With a courteous bow, he commences with the usual and familiar, but now almost classic, "Gentlemen." The voice is low pitched but clear and distinct. No manuscript or notes are used. The lecture is delivered in an easy conversational manner. Now and then reference is made to some specimen, which is passed around; or

the board is used for diagramatic purposes One sits enchanted ; for the marvelous language, the grace of delivery, the original interpretation of things old and new combine to make the hour one ever to be remembered. There have been great teachers of surgery and there will be great teachers ; but he who would excel this prince of instructors, must needs excel perfection itself.

From four until five will be spent in attending the lecture on "Medicine" by Dr. Gee or Dr. Andrew. The next hour may be given to one of the tutorial classes, or in attending Mr. Butlin's surgical demonstrations. These demonstrations consist in illustrating all branches of practical surgery.

And now the hours from nine until six having been spent in watching the work and the workers, we pass once more through the quadrangle, stopping for a moment to watch the lights, as they appear one by one in the many windows, for the work of the day is done and that of the night has commenced, to the western gate, where our friend the porter wishes us a pleasant "Good night," and so out to the London fog and mist, well pleased with our day at St. Bartholomew's Hospital.

HENRY CONKLING, M. D.

London, Eng., April 1, 1888.

MISCELLANEOUS.

◆ BROOKLYN VITAL STATISTICS FOR MARCH, 1888.

By J. S. YOUNG, M. D., Dep. Commissioner of Health.

Population, estimated on January 1st, 1888..... 774,870
Inhabited houses, about..... 85,000

In the month of March, 1888, there were 1,594 deaths, the rate of mortality being 24.58 in every 1,000 of the population.

The number of births reported was..... 1413

The number of marriages reported was..... 336

The number of still-births reported was..... 108

The mortality by classes and by certain of the more important diseases was as follows :

Causes :

I. Zymotic.	280
II. Constitutional.....	276
III. Local.....	865
IV. Developmental.....	132
V. Violence.....	41
Measles.....	2
Croup.....	44

Diphtheria	96
Scarlet Fever.....	70
Typhoid Fever.....	3
Whooping Cough	9
Malarial Diseases.....	7
Diarrhœal Diseases (all ages)	15
" " (under 5).....	9
Phthisis	183
Bronchitis.....	97
Pneumonia.....	220
All Respiratory Diseases.....	352
Bright's Disease.....	42
Puerperal Diseases.....	25
Old Age.....	31
Suicide.....	3

Reported cases of Infectious Diseases :

Diphtheria.....	258
Scarlet Fever	352
Measles.....	59
Typhoid Fever.....	5

During the month 106 cases of small-pox were reported, of which number 86 were confirmed as small-pox; 75 cases of small-pox were sent to the hospital; no deaths from small-pox occurred in the city and 15 in the hospital.

Deaths by *Sex, Color and Social Condition*, were as follows: Male, 787; female, 807; white, 1,568; colored, 26; native, 1,059; foreign, 535; married, 476; single, 869; widows and widowers and not stated, 249.

Still-births (excluded from the list of deaths) were as follows: Males, 60; females, 48. Total 108.

Deaths in Public Institutions.....	108
Deaths in Tenement houses.....	425
Inquest Cases.....	139
Homicides	1
Suicides.....	3

Age Periods: Deaths under 1 year, 272; under 5, 301; total deaths under 5, 537; 5 to 20, 155; 20 to 40, 289; 40 to 60, 280; 60 and upwards, 297.

Certain foreign and American cities show the following death rate for the month of March: Brooklyn, 24.58; New York, 28.35; Philadelphia, 20.77; Berlin, 22.18; Vienna, 25.12; Paris, 25.68; London, 21.05; Glasgow, 27.45; Dublin, 30.01.

DIPHTHERIA IN BROOKLYN.

Diphtheria in Brooklyn, during the years 1887 and 1888, for the period beginning January 1st and ending March 31st. Prepared by Dr. J. S. Young, Dep. Com. of Health.

WARDS.	CASES.		DEATHS.		WARDS.	CASES.		DEATHS.	
	1887.	1888.	1887.	1888.		1887.	1888.	1887.	1888.
1	7	23	3	9	14	8	20	3	11
2	5	12	2	8	15	10	24	2	8
3	14	24	6	8	16	22	19	10	13
4	8	13	1	2	17	26	20	12	12
5	13	8	9	3	18	18	60	8	24
6	31	22	16	12	19	16	50	9	21
7	10	52	3	22	20	9	28	1	8
8	23	48	14	23	21	24	67	7	22
9	15	38	6	16	22	12	46	4	17
10	26	24	15	10	23	15	32	7	15
11	8	17	3	8	24	8	11	4	6
12	25	24	15	15	25	14	41	3	12
13	5	26	3	7	26	11	54	2	12
Total.....						383	803	168	324

SCOTCH OATS ESSENCE.

BY R. G. ECCLES, M.D.

From *The Druggists Circular and Chemical Gazette*, April, 1888.

Under the above title a proprietary article is now being extensively advertised in most parts of the United States as a tired brain and tired nerve recuperator, which is claimed to give lasting powers to the system while free from all enslaving qualities such as morphine, opium and alcohol possess. The aged and the infant are alike advised to use it when pain is to be assuaged, sleep is needed or exhaustion to be

overcome. To get full benefit, however, the compounder tells the public that "its use must be regular," and the patient must press the dose until the full effect is felt, beginning with a half or one teaspoonful. Some people, he says, require much more of a remedy to act upon them than others do. This allures each user up to the dose which gives physiological results and saves such as possess an unfavorable idiosyncrasy from seriously harming themselves at the first trial.

Without doubt, Scotch oats constitute an admirable article of diet. Johnson, the English lexicographer, defined the word "oats" as an article used in Scotland to feed men and in England to feed horses. Carlyle, the Scotch reviewer, retorted: "Yes, and what fine horses you have in England and what fine men we have in Scotland." These fine horses and fine men, however, were not raised on a mere essence of that superb cereal. As a Scotchman, curiosity to know something about this new American find must, under the provocation, be considered excusable. A principle so remarkable should not be held secret by any one. All men should know its nature, and especially Scotchmen. The simple analysis here reported aimed more at determining the constituents qualitatively than quantitatively. The latter task being an exceedingly tedious and difficult one when organic compounds are under examination.

The specific gravity of the essence at 60° F. is 0.95808. When it is boiled down to one-third of its volume and distilled water enough to restore the original bulk added, we have an article having a specific gravity of 1.00316 at the same temperature. More than one-third the weight of the essence is therefore alcohol. This constitutes it a pretty fair quality of liquor to drink should the dose required be found a high one.

Twenty-five cubic centimeters, when boiled dry and to constant weight on a tared porcelain capsule, gave 0.195 gram of total solids. Of this 0.009 gram was insoluble in water and 0.186 gram soluble. The 0.195 gram on incineration produced 0.0143 gram of inorganic ash. This contained potassa, soda and lime, the minuteness of the quantities worked forbidding the determination of amounts. About three-fourths was soluble in water, and these soluble salts were found to be both sulphates and bromides, with perhaps chlorides. In their natural states we must assume, however, that most of them were united to organic acids if originally derived from the plant or seeds. The precipitation by barium chloride being a little greater than by nitrate of silver, the sulphuric radical was in greatest amount. When the bromide radical was discovered the analysis was stopped and conclusions drawn that a re-examination and the discovery of the sulphion did not surprise.

Several attempts were next made to extract an alkaloid but only

with partial success at first. Each trial gave just enough to show a slight milkiness with Meyer's reagent (potassio-mercuric iodide). Then a plan was adopted that gave one in an impure condition. Finally when the essence was freed from alcohol made slightly alkaline with ammonia and shaken vigorously during a couple of days at intervals of an hour or so for five or ten minutes each time, a fine precipitate settled down to the bottom of the solution. On passing the whole carefully through a pair of tared filters, washing first with water drop by drop and then with ether, there was found to be 0.068 gram of a granular whitish powder as the product of one bottle of six ounces.

The appearance of the powder was that of crude morphine. The way it was procured declared it to be morphine and no other known alkaloid. It was soluble in dilute acids and insoluble in ether as morphine is. The acid solution gave the same gelatinous precipitate with potassio-mercuric iodide that morphine does. Strong nitric acid when applied to traces of it, gave a yellow color as morphine does. Strong nitric acid when applied to a palpable amount gave an orange-red color which changed to yellow as morphine does. Touched with test solution of ferric chloride, a blue color appeared which changed to green in excess of the reagent in the same manner as with morphine; alcohol destroyed this color just as it does that of morphine. No color was developed by strong sulphuric acid as in the case of pseudomorphine, the only other alkaloid it could possibly be taken for.

Without a shadow of chance for error we discover then, that this "Scotch oats essence" contains morphine. Analysis of a genuine essence of oats of American make, and probably growth, revealed no morphine present. If oats grown in Scotland contains this dangerous alkaloid of the poppy, none of the many able chemists of that country from Black, the father of the science, down to his latest successor at Edinburgh University, have found it out. "Avenesca," the fanciful title somebody has given the active agent of this proprietary preparation, is then a synonym for morphine, and the article that like opium will "quiet pain and produce sleep," is, after all, morphine. It is this, too, that is pledged to destroy the morphine craving and "free the victim from his terrible bondage." To say that "the infant and the octogenarian may alike use it without any harm and much benefit" is to tax the credulity of those who know its composition to the utmost, while calculated to mislead the unwary in a manner that is pitiable.

Is this thing right? Who will defend the ignorant and innocent in their helplessness? The quantity in a dram is not great, it is true, but when the dose is increased, as advised, the danger appears. The amount abstracted from the bottle was probably but half what it contained. From 60 c. c. of distilled water, containing 0.125 gram of sulphate of morphine, the same process abstracted only 0.055 gram,

or less than half. A bottle of "Scotch oats essence," by this showing, would contain more than 0.136 gram of alkaloid, or over two grains. As a salt of morphine weighs heavier than the base from which it is made, this figure must have an additional increase to truly represent the amount added. There cannot, therefore, be much short of a half grain in every ounce, if we say only one-third, the amount is quite sufficient upon which to lay the foundation for a dangerous habit.

The directions for use say: "As a general rule, a pain or fullness at the base of the brain, and a feeling of smarting in the eyes, are the usual indications that the dose is too large and should be reduced. Even when these symptoms show themselves, the remedy, even if continued, will do the person no actual harm; but, in such cases, the dose should be somewhat reduced." Thus the assurance of safety is kept up while the dose increases.

The odor given in burning supports the view that it is probably a tincture of *Avena sativa*, to which the morphine is added.

DR. EDWARD C. MANN.

The Gold Medal of the Society of Science, Letters, and Art of London has been awarded to Dr. Edward C. Mann, of this city, "for his excellent work on Psychological Medicine."

THE FAITH CURE.

The following editorial from the *New York World* is evidence of the fact that the injury done by the Faith Cure is not unappreciated by the laity:

"It is somewhat difficult to say what should be done in the matter of hallucinations which take the form of Faith Cure and its kindred absurdities. So long as they do not bring about serious consequences, the better plan is to let the nonsense wear itself out after the manner of other fads. But when it prevents people from being saved from the grave, it seems as if there ought to be some way devised to deal effectively with it. But a few months ago an estimable lady in Brooklyn was stricken with pneumonia, a disease which particularly calls for prompt treatment. Instead of sending for a physician in time to make the best of the chances, a mind-curer was permitted to occupy the field until it was evident that the woman was dying, and then medical aid was fruitlessly summoned. The death of a woman, for want of attention, who had just given birth to a child, was recorded in yesterday's journals. The obstetrical services of the 'mind-curer,' or 'faith-curer,' or by whatever name she may be called, consisted in doing nothing but praying and putting her mind on the subject, while the perfectly healthy mother and child died from entirely preventable causes. How long will this trifling be allowed to go on?"

AMERICAN PUBLIC HEALTH ASSOCIATION.

The Sixteenth Annual Meeting of the American Public Health Association will be held at Milwaukee, Wis., November 20-23, 1888.

The Executive Committee has selected the following topics for consideration at the meeting :

I. The Pollution of Water-Supplies. II. The Disposal of Refuse Matter of Cities. III. Animal Diseases Dangerous to Man. IV. Maritime Quarantine, and Regulations for the Control of Contagious and Infectious Diseases, and their Mutual Relations.

Precedence will be given papers upon the above subjects, although other papers of a sanitary nature will be received by the Committee. The topics given indicate the subjects which it is desired to consider, yet they are not to be regarded as the exclusive topics of the meeting. Papers of ability and practical application upon any subject connected with the public health interests will be received.

THE LOMB PRIZE ESSAYS, 1888.

Mr. Henry Lomb, of Rochester, N. Y., now well known to the American public as the originator of the "Lomb Prize Essays," offers, through the American Public Health Association, two prizes for the current year, on the following subject :

Practical Sanitary and Economic Cooking Adapted to Persons of Moderate and Small Means.

First Prize \$500. Second Prize, \$200.

Conditions :—The arrangement of the essay will be left to the discretion of the author. These essays are, however, expected to cover, in the broadest and most specific manner, methods of cooking, as well as carefully prepared receipts, for three classes,—(1) those of moderate means; (2) those of small means; (3) those who may be called poor. For each of these classes, receipts for three meals a day for several days in succession should be given, each meal to meet the requirements of the body, and to vary as much as possible from day to day. Formulas for at least twelve dinners, to be carried to the place of work, and mostly eaten cold, to be given. Healthfulness, practical arrangement, low cost, and palatableness should be combined considerations. The object of this work is for the information of the housewife, to whose requirements the average cook-book is ill adapted, as well as to bring to her attention healthful and economic methods and receipts.

All essays written for the above prizes must be in the hands of the Secretary, Dr. Irving A. Watson, Concord, N. H., on or before October 15, 1888. Each essay must bear a motto, and have accompanying it a securely sealed envelope containing the author's name and address, with the same motto upon the outside of the envelope.

The judges will announce the awards at the annual meeting of the American Public Health Association, 1888, unless they should decide that no essays received are worthy of a prize.

It is intended that the above essays shall be essentially American in their character and application, and this will be considered by the judges as an especial merit.

Competition is open to authors of any nationality, but all the papers must be in the English language.

BENZOATE OF LITHIA.

A prominent Brooklyn physician says that benzoate of lithia, in fifteen grain doses, repeated from four to six times a day, is a powerful and reliable antaphrodisiac.

MEDICINE AND MONEY.

From the *St. Louis Medical Journal* we clip the following maxims: The physician who values his time and advice is the man who is appreciated.

He who sells himself for nothing generally gets all he is worth.

He who goes for half price, when patients are able to pay a reasonable fee, goes for more than he would bring on the market.

A community never values a physician higher than he values himself.

He who works for love may gain the reputation of a Good Samaritan, but Good Samaritans are not all good doctors.

No greater mistake was ever made than to impress the community that doctors are poor business men. Straightforwardness, promptness, reliability and firmness are elements by which a man's qualifications are determined.

Put off the presentation of your bill for a year, and the patient will conclude that your services were worth but little, and that you knew it.

Never try to gain a practice in a community by charges below the usual and reasonable fee. If you do, you will move to another quarter and wonder why you were not appreciated.

A physician's bill is a debt of honor. Bankruptcy cannot affect the obligation. The grocer and drygoods merchant may be put off a little, but the physician is more than tea and sugar, coffee and calico. He attends at all seasons and all hours; he adds his sympathies and interest; he bears a part of the anxieties in the trying moments, and advises in all times of pain and peril.

The real business man charges for his services and collects his bills. To such a patient will say: "Here, doctor, is your claim. I thank you for your kindness and attention. When my folks get sick, you are our physician."

Withal be good to the poor. You have them always with you. It is often cruel to accept pay from them. Be systematic in business, so that you will be able to give when and where it is required.

BOOKS AND PAMPHLETS RECEIVED.

All books and pamphlets sent to THE JOURNAL are deposited in the Library of the Medical Society of the County of Kings.

Transactions of the Medical Society of the State of Pennsylvania at its 38th annual session, held at Bedford Springs, Pa., June 29th, 30th, and July 1st, 1887. Vol. xix. Published by the Society, Lancaster, Pa., 1887.

The Treatment of Hæmorrhoids by Injections of Carbolic Acid and other Substances. By Silas T. Yount, M.D. 2d Ed. Lafayette, Ind., 1888. The author treats *internal* hæmorrhoids with weak injections of carbolic acid, and claims to get "better results from a five per cent. than from a thirty or forty per cent. solution; and the great advantage of the weak solution over the stronger is that the former is comparatively painless and never produces any sloughing, while the latter causes sharp stinging, and often produces extensive sloughs and much suffering." He gives the following summary of the reports of 287 cases treated with injections of from three to five per cent. solutions.

"Much less pain at time of injection." "No sloughing in any case." "No confinement in bed." "No loss of time." "No abscess." "Only three failures." "Only seven relapses."

Twenty-seventh Annual Report of the Cincinnati Hospital. Cincinnati, 1888. The hospital, in addition to the usual hospital work, maintains a medical library of over 6,000 volumes.

The Diagnosis and Treatment of Uterine Flexions. By John Blake White, M.D., of New York. 8vo pamphlet. Reprint from *Gaillard's Med. Jour.*, July, 1887.

Doctor White has devised an instrument which he has denominated the *metratrep*, which is a kind of flexible uterine sound, which records on a dial near the handle the curves the flexible point makes while entering the canal of a flexed uterus, thus recording the degree, etc., of flexion. The *metratrep* is also used by the doctor to restore the flexed uterus to its normal position.

A Case of Icterus Infantum from Congenital Deficiency of the Ductus Communis Choledochus. By the same author. 8vo pamphlet. Reprint from *Am. Jour. Obstet.*, January, 1888.

Dr. White in this pamphlet gives a brief résumé and bibliography of this rare malformation.

Eleven Cases of Phthisis Treated by Intra Pulmonary Injections of Carbolized Iodine. By the same author. 12mo pamphlet. Reprint from *Medical Record*, May 22, 1888.

The following is the formula of the medicament the doctor uses:

R	Atropia.....	gr. $\frac{1}{2}$.
	Morph. Sulph	gr. $\frac{1}{4}$.
	Tr. Iodini	ʒ iii.
	Acid Carbol. (pure)	gtt. xx.
	Glycerin.....	ʒ iss.
	Aquæ.....	ʒ ii.
M.		

Of this the doctor injects fifteen to thirty minims into the pulmonary cavities with a hypodermic syringe.

Annual Report of the Board of Health of the City of Indianapolis for the year ending December 31, 1887. S. E. Earp, M.D., Secretary. Indianapolis, Ind.

Shakspeare and the Medical Sciences. The Presidential Address delivered on October 4, 1887, at the opening of the fourteenth session of the Bristol (Eng.) Medico-Chirurgical Society. By L. M. Griffiths, M.R.C.S., Eng., etc. A reprint from the *Bristol Medico-Chirurgical Journal*, 1887. Contains a cut of Holbein's painting of Henry VIII. Presenting a Charter to Barber Surgeons of London.

Some Points in the Surgery of the Urinary Organs. The Lettsomian Lectures delivered before the Medical Society of London, January, 1888. By Reginald Harrison, F.R.S. London, 1888.

Lecture I.—Urine fever and toxic urine. The formation of stricture tissue in reference specially to the treatment of urethral stricture.

Lecture II.—The pathology of the enlarged prostate viewed in respect to its causation and prevention, and the treatment of some complications arising out of it.

Lecture III.—The operative treatment of stone and tumors of the bladder in relation to some recent views and practices.

THE
BROOKLYN MEDICAL JOURNAL.

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VOL. I. BROOKLYN, N. Y., JUNE, 1888. No. 6.

ORIGINAL ARTICLES.

DIGESTION AND DIET: THEIR RELATION TO DISEASE.

BY GEO. B. FOWLER, M.D., NEW YORK.,

Professor of Clinical Medicine and Medical Chemistry, N. Y. Post-Graduate Medical School; Visiting Physician to Bellevue Hospital and to the N. Y. Infant Asylum.

Read before the Medical Society of the County of Kings, April 17, 1888.

A striking characteristic of living things is their ability, under favorable circumstances, to sustain and perpetuate themselves; and this they do by the digestion and appropriation of certain substances which we call food.

When we contemplate, on the one hand, the complex structure and varied endowments of a living body, and on the other, consider the inanimate materials with which it is nourished, there are suggested the intricate and marvelous processes through which the one must pass before the other is possible.

Before such an audience as this I fully realize that it would be superfluous to trace in detail the successive digestive functions. But I am equally aware of the fact that, primary and fundamental as this subject is, the profession is prone to neglect it, and, as a rule, are interested more in the manipulative and speculative branches. I hold that a physiological training is absolutely essential to a proper comprehension and treatment of disease, and that many of the ailments with which we have to contend are the outcome of faulty digestion and assimilation.

Therefore, you will allow me to remind you at the outset of certain important phenomena connected with nutrition which are not generally emphasized in the text-books.

For the manifestation of energy in the body we have supplied two factors : oxygen and oxidizable (organic) food. But it is an important fact that these two factors do not affect, or notice, each other until the latter (the food) has been materially altered by its passage through the alimentary canal and liver, and stored up in the tissue cells (Pflüger). Then oxidations are affected which were previously impossible under the existing conditions ; for atmospheric oxygen does not oxidize albumen, starch, sugar or fat. If the oxygen existed as ozone it would combine with these substances ; but, according to reliable authorities, there is no ozone in the blood.* In other words, the present view is that the hæmoglobin comes to the tissues charged with oxygen, with which it is in very loose combination, and the tension of which is less than the tension of the oxygen of the tissue cells ; that the cells take up and store the gas in excess of their immediate needs, and the hæmoglobin passes on in a reduced or venous condition ; that the prepared materials derived from the food are also taken up by the cells ; and that in their substance there is finally effected those combinations, or oxidations, by the explosion of which vital phenomena are manifested, and the smoke and ashes are returned in the shape of urea, carbonic acid, water and other excrementitious substances.

Examples of decomposition of alimentary principles by oxidation may be thus formulated.

Sugar.



Fat.



The question of the assimilation of nitrogenous compounds and that of the origin of urea is beset with many difficulties. We know that the digestive secretions split up albuminous substances ($C_{72}H_{112}O_{22}H_{18}S$) into bodies of smaller molecular weight, leucin ($C_6H_{13}NO_2$) tyrosin ($C_9H_{11}NO_3$) and peptone, a substance with smaller molecules, and at last it is deposited as tissue substance. The first step in the retrograde metamorphosis of proteid material is probably kreatin ($C_4H_7N_4O_2$) a crystallizable body found in the solid tissues and from which in the liver urea is supposed to be largely derived.

Previous to absorption there are important modifications to be effected with respect to the physical and chemical characters of the

* Ewald, Lectures on Digestion. London, 1880, p. 5.

alimentary principles, the result of which will be the conversion of starch into sugar, albuminoids into peptones, and the emulsifying and saponification of fats. Now, these changes are all brought about by specific agents called "ferments."

Ferments are a peculiar class of substances which, by their mere presence and under favorable conditions of temperature and moisture, excite dissolution in organic compounds and do not combine with the resulting products. They are conveniently divided into two classes—organized and unorganized. The organized ferments include all such as consist of definite organisms (yeast, bacteria). The unorganized are those which are ingredients of certain animal and vegetable juices (ptyalin, pepsin, trypsin, pancreatin, emulsin).

After years of controversy, and after Schwann (1838) had paved the way, Pasteur (1857-'61) proved that the vinous fermentation of sugar is due to the presence of the microscopic yeast plant (*saccharomyces cerevisiæ*), and afterwards extended our knowledge of this subject in the demonstration of specific organisms to be the cause of various other fermentative and putrefactive phenomena; so that, to-day, the important questions are, What is the nature of the influence which these micro-organisms exert, and is their presence absolutely essential to effect the same uniform results?

Without suspecting even the proximate cause, the oldest observers rightly regarded ferments as agents or forces capable of accomplishing a great deal of work without material detriment to themselves. But now that the microscope has revealed the agents, we look further for the source of their power and the method of its evolution. Liebig held that the yeast plant was largely composed of albuminoid matter, the molecules of which were so unstable that atmospheric oxygen caused them to be in a constant state of atomic motion, which they impart to the sugar, and cause its rearrangement as alcohol plus carbonic acid.

Schwann's idea was that the sugar fungus derives its nourishment from the nitrogenous and the saccharine material in which it is immersed, and that the elements which are not assimilable are eliminated by the fungus in the shape of alcohol and carbonic acid. And Pasteur's conclusion is, that with organized ferments, the products are the result of the physiological existence of the organisms. "They produce fermentation as a function of their vitality." It will be seen that these theories amount to about the same thing in the end.

According to Hoppe-Seyler, all ferment actions are chemical processes, whether from organized or unorganized varieties, and we should regard them all as secretions of organisms. He holds that it is due to a lack of our knowledge that we cannot make an extract of the secretion of the yeast plant, just as we do of the stomach cells.

Notwithstanding, however, the desirability of such a classification, as it would greatly simplify their study, and notwithstanding that there are facts which seem to support this view (such as published by Lecartier and Bellamy, who produced alcohol without yeast from a mixture of leaves and fruit of phanerogamous plants; that it is possible to extract from yeast a substance (invertin) capable of converting levulose into dextrin), there yet remain wide differences between the two kinds of ferments which are sufficient to warrant their arrangement into two classes; and, practically speaking, in order to obtain a certain result, we must employ a specific ferment. The unorganized or soluble ferments (pepsin, diastase, emulsin,) are the products of living organisms, whose subsequent existence they are independent of; once secreted, they act equally well, whether the parent organism is still alive or not. It is otherwise with the organized; with these all action ceases as soon as the cells are dead. The organized ferments increase, or multiply, during activity; the unorganized do not. And there are other differences of behavior under the influence of oxygen and various chemicals which bear us out, for the present at least, in our classification.

Both classes of ferments carry on their operations in the animal body; but here their distinction becomes very important: *All physiological fermentations are due to the unorganized, all pathological to the organized ferments.* The physiological ferments, then, are ptyalin, pepsin, trypsin, invertin, and a sugar-forming ferment in bile.

The pathological ferments commonly met with in the body are, the yeast plant, acetic acid ferment (mycoderma aceti), lactic acid ferment (ferment lactique, Pasteur), butyric acid ferment (bacillus subtilis, Cohn), and the ferment of putrifying urine (micrococcus ureæ).*

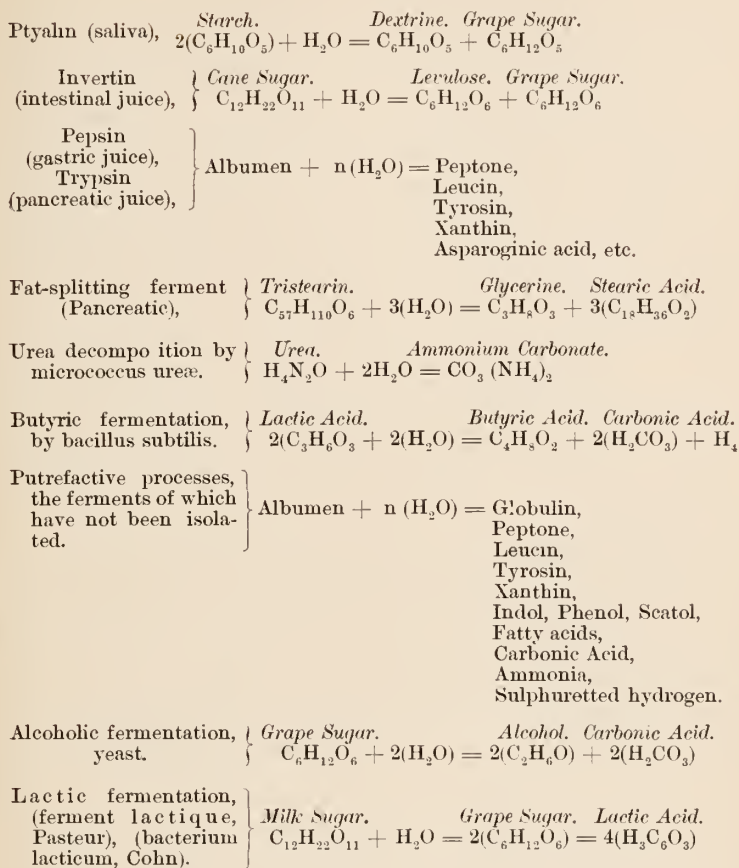
Now, under the influence of ferments during the process of digestion, the alimentary substances are so affected as to alter their physical and chemical characters, and are fitted for absorption; and this is simply the result of the assumption by them of the elements of water. In the case of starch, the process may be thus expressed:



Bodies which cause such an action are called *hydrolytic ferments*, and, so far as known, are the only kind in the body. The following table by Hoppe-Seyler gives a list of ferments, and will serve to illustrate the chemical processes resulting from their influence where anhydrides are converted into hydrates.

* This list, of course, does not include the numerous micro-organisms recently discovered and classified in connection with the study of infectious diseases.

HYDROLYTIC FERMENTATIONS.



If we take a drop of water from a stagnant pool and place it under the microscope, we shall probably see, among other objects of interest, a specimen of *amaba diffluens*. It consists of a shapeless mass of jelly-like substance, and I believe is about the lowest order of animal life. If watched intently, the apparently lifeless body is seen to gradually alter its shape and position; and this it does simply by a flux of its own semi-fluid material, in the shape of clumsy projections. There are no visible organs, the creature being a simple mass of protoplasm. By close observation, it is seen to feed. Minute solid particles adhere to its surface, and soon a stream of its body material sets in towards this spot and gradually envelopes the foreign matter in a thick layer of itself, which, being transparent, permits us to still see the particles within. Dissolution and absorption of the desirable portions take

place, and the indigestible remnants are finally cast off by a reversal of the process.

Though so different in detail, the same result is accomplished in the *amœba* as in man, and it is only on account of the nature of the food and special requirements of the animal that the contrast is so great. If it were not out of place here, we might trace the evolution of the digestive apparatus from the lowest forms upwards, and show how additional organs are gradually found, how the temporary stomach of the *amœba* becomes in the infusoria and polyps a permanent sac; how a distinct mouth and intestinal canal are developed in the higher invertebrates, and the accessory organs first appear in the higher radiata (echinodermata).

As showing the relation of the length of the intestinal tube to the food of the animal, the fact may be cited that, as compared to the length of the body, in the sheep it is as 28:1; in the ox, 15-20:1; in the carnivora, as 4:1; and in omnivorous man, as 6:1 (Ewald).

Ptyalin is the specific ferment of the saliva, its action being the conversion of starch into dextrine and the dextrine into sugar. (See table of ferment.)

However important this property of saliva may be in the herbivora, there are several reasons why there is a difference of opinion among authorities as to its utility in man. In the first place, the stay of the food in the mouth is so brief, that it is impossible but that a very minute proportion of the starch can be at all effected, and, as the transformation is perfectly carried out further on by the pancreatic juice, the diastatic influence of the salivary secretion would seem to be only incidental. Then again, it has been taught that an alkaline medium was absolutely essential for the display of this function by the saliva, and having just begun in the mouth was doomed to summary extinction in the gastric juice. It is, however, now pretty generally conceded that the salivary diastase does act in the presence of an acid mixture of the average strength of the gastric juice, 0.2 per cent.* The acid strength of the gastric juice, however, varies greatly, and in certain irritative conditions is unpleasantly strong. Dalton has always found that the gastric secretion of the dog, when added in equal volume to starch paste, markedly interferes with the action of any saliva that may be present. We certainly think that as a result, both of experience and inferential knowledge, it is correct to say that the diastatic power of saliva is of very little moment except in those animals where provision is made for prolonged contact of the food with the secretions of the mouth. Dogs and fish gulp down amylaceous material too

* Lauder Brunton—Sanderson's Handbook for the Physiological Laboratory, vol. i., p. 461. Philadelphia, 1873.

quickly for any attempt at salivary digestion; indeed, there are but rudiments of salivary glands in fish. Saliva is secreted without regard to the quantity of starch in the food, and a mass of starchy substances sufficiently moistened by any other fluid will be swallowed independently of salivation.

The true function of saliva is to lubricate and moisten the mouth during fasting, and the food during mastication. It is secreted in greater amount when dry substances are masticated, but the average daily quantity is about 1,500 grammes (50 $\bar{3}$).

The specific ferment of gastric juice is pepsin, and though so familiar in the shops has never been perfectly isolated. It can be easily extracted in an impure state from the macerated mucous membrane of the stomach by glycerine, and such an extract displays, when properly acidulated, all the properties of the natural secretion.

Gastric juice has two special functions—the conversion of protein substances into peptone and the coagulation of milk.

But the practical result effected by gastric juice upon nitrogenous food is the high degree of diffusibility which the product acquires.

The nature of the change effected in these bodies, by which they are converted into peptones, has been the subject of unremitting study for many years, and to-day is not perfectly understood. The molecular constitution of the proteid itself is not definitely known, and it is therefore very difficult to follow its metamorphosis. Yet the study of the digestion of starch, and the change by which starch is elsewhere converted into sugar by the action of various ferments, as diastase in the ripening of fruit, and by boiling with dilute acids, has given a significant hint to physiological chemists as to what may be the explanation of the digestion of albuminoids.

In short, pepsin is a hydrolytic ferment, and *peptone is the hydrate of albuminate* (see table of ferments). Modern research has shown that, under the influence of gastric or pancreatic juice, albuminoids become hydrated, and thereupon capable of absorption.

It is extremely difficult to obtain pure peptone, it being apt to contain certain by-products of the process. It approaches purity when its composition closely resembles a pure albuminoid from which it is derived. Upon subjecting coagulated white of egg or fibrin to the action of gastric juice, certain visible changes take place. The substance first swells up and becomes transparent, and finally dissolves. If simply an acid fluid is used, of .2 per cent. strength, only the first two effects are produced;* but, upon adding a little pepsin, complete solution results.

*Pepsin would seem to be important in effecting quickly and comfortably that which can be brought about artificially by more violent processes; for peptone can be produced by the action of strong acids alone, by the prolonged action of dilute acids, and in the presence simply of superheated water.

Both the acid and pepsin, then, are essential elements of the gastric juice. Gastric juice is most active when the acid is present in the proportion of about .2 per cent. and when the temperature is maintained at about 100° F. It is retarded when the acid strength is much more or less than .2 per cent., when the temperature is more than 100° F., and when the products of digestion are allowed to accumulate in the solution. By boiling, the pepsin is permanently destroyed. An alkaline reaction renders it inert, and the presence of concentrated solutions of the neutral salts (sodium chloride especially) markedly interferes with its activity by preventing the albuminoid from swelling up. By tying a string tightly around pieces of coagulated albumin, its solution is similarly prevented (Hermann). Bile interferes with the action of gastric juice by hindering the swelling up process, by neutralizing the acid, and by precipitating the pepsin. The retardation or arrest of digestion, as a result of the accumulation of the products, is due simply to the dilution of the acid; for, upon adding more acid or withdrawing the digested portions by dialysis, the process is resumed. This has a practical bearing upon the treatment of dyspepsias, in that we are taught to administer acids in cases where absorption from the stomach is interfered with from any cause (catarrh, passive congestion, pyloric stricture, dilatation).

Milk is coagulated by gastric juice. This effect is not due alone to the acidity, but to pepsin or some other as yet not isolated ferment; for both neutralized juice and pepsin have the same property.

If weakly acid and containing much mucus, gastric juice will convert starch into sugar—in harmony with the fact that starch will undergo this change in presence of any organic ferment.

Besides mucus, gastric juice, and food, the stomach contains gas, consisting of atmospheric air swallowed with the food, carbonic acid exhaled from the blood or given off by decomposition of carbonates of the food by the acid of the gastric juice. In pathological states various other gases accumulate here, as a result of putrefactive fermentation.

The nerves supplying the stomach are the vagi and branches from the coeliac plexus of the sympathetic. There are numerous ganglia situated in the muscularis mucosa and in the muscular layers, besides the ganglia of Auerbach lying underneath the peritoneum.

Like the salivary gland, the stomach secretes two fluids, one thick and alkaline and limited in amount (mucus), the other thin, copious, and acid (gastric juice). In a state of quiescence the first alone is present, but on irritation of the mucous membrane the second is freely poured out. The stimulus capable of producing this effect may be either of a physical, chemical, or emotional nature. Contact of food, or by stroking the surface with a feather or glass rod (through a fistula),

brings about abundant secretion. The most effective chemical stimuli are alcohol, condiments (pepper, salt), cold water, and dilute alkalies. In accordance with the effect of an alkali, it is asserted that the swallowed saliva is an important gastric stimulant.

Like the salivary secretion, that of the stomach is always accompanied by dilatation of the blood vessels and an increase of the blood supply. That the ganglia which are situated in the organ itself, however, exert an influence independent of other nervous supply is proved by the fact that gastric juice will be secreted after section of the vagi and sympathetic branches.

According to reliable authority (Bernard, Longet, Rutherford), section of both pneumogastric nerves in the neck causes paralysis of the œsophagus and stomach. The mucous membrane of the stomach becomes pale, and in some experiments the secretion of gastric juice ceased. In most cases, though, gastric juice continued to be secreted, but in very small amount.

Bernard introduced finely chopped meat into the stomach of a dog thus operated upon, and on the following day found a strong ammoniacal odor, the result of decomposition. No doubt the failure of digestion in cases of paralysis of the stomach is in great measure due to the fact that the food is not moved about and mingled with the secretion really present. Notwithstanding the paucity of our knowledge on this subject, it is quite certain that the vagi contain both motor and sensitive fibres which are distributed to the stomach, and that irritation of the nerves in their course produces reddening of the mucous membrane, secretion of gastric juice, painful sensations, and muscular movements of the organ.

The vaso-motor mechanism of the stomach is derived from the splanchnics, as can be proved by section of these nerves, when there is a marked dilatation of the blood vessels of the stomach; and irritation of the splanchnics causes contraction of these, with paleness. Rutherford has shown that when the pneumogastrics have been cut, and the stomach is pale, that irritation of the central end of the divided nerve will restore the red color. It may be, therefore, considered that the splanchnics and vagi are opposed to each other, as are the chorda-tympani and sympathetic distributed to the submaxillary gland. This observer regards the vagi as containing afferent fibres, the irritation of which, either at their end organs, by the contents of the stomach, along their course, or at the origin of the nerve in the medulla, results in an impression produced at the medulla the effect of which is the inhibition of the vaso-motor centre in the spinal cord and an influence dispatched along the splanchnics to the semilunar ganglion, whereby there is an increased blood supply given the stomach and abdominal organs.

The mechanism by which the two orifices of the stomach are kept closed during digestion, and, on the part of the pylorus, opened when it is time to allow the chyme to pass on into the intestine, is as yet unknown. This closure of the pylorus, however, is not absolute; for during stomach digestion, gushes of food and gruel-like matter are constantly flowing into the duodenum. Solid pieces of food of considerable size do not, as a rule, make their escape, and it seems to me that it is the irritation of solid matter in its attempt to pass the pylorus which keeps this portal contracted and closed.

There is every reason to believe that active absorption takes place in the stomach of all readily diffusible substances. But much of the protein material is only partially digested here, so that this, together with the remainder of the meal, consisting of starch and fat, after a while passes into the intestine, where they come in contact with the bile, the intestinal secretion, and pancreatic juice. These fluids are all mingled with the gastric juice which comes down from the stomach, and there is no doubt but that in the mixture there is a specific effect exerted upon the food. It has not, however, been successfully studied. Taken separately, certain very important facts have been elicited as to the action of the respective secretions.

The first important step after leaving the stomach is the change from an acid to an alkaline condition; consequently gastric digestion, as we understand it, here comes to an end.

We know very little about the nervous mechanism of the pancreas. Central stimulation of the pneumogastrics arrests its secretion, as does also vomiting (Bernard, Bernstein, Weinmann), whilst peripheral irritation or section of the vagi is without effect. It is evident that the pancreas is largely dependent upon its blood supply to regulate its secretion; for, when examined in a state of rest, it is seen to be pale and flabby, but during digestion the organ swells up and becomes turgid with blood.

It has been generally asserted that during infancy the pancreatic juice has no diastatic power; but Ewald claims to have found this property active in puppies three days old,* while Roberts found the pancreas of suckling calves inert with respect to its effect upon starch.† It is certain that it converts starch into grape-sugar, transforms proteids into peptones, and so modifies fats that a greater portion of them is absorbed in an unaltered but finely subdivided state, and the rest is converted into a fatty acid and glycerine. The acids thus formed unite with the alkaline bases of the bile and form soaps, the presence of which, no doubt, assists in the process of emulsification and absorption.

* Loc. cit., p. 90.

† Practitioner, Dec. 1879, p. 403.

We should naturally conclude from its extensive function that disease or functional disturbance of this organ would result in serious disturbance, the source of which could be easily located. While it is a fact that affections of the pancreas cause marked manifestations of ill health, it is equally true that the symptoms thereby arising are with great difficulty accurately attributable to this gland; for it must be remembered that its function, besides being a multiple one, is in no particular confined to it alone. Its power to digest starches, proteids, and fats is shared by the saliva, gastric juice, and bile, respectively; and its situation is so deep and protected that examination during life rarely succeeds in assisting in diagnosis. Then, again, the symptoms which have been vaunted as affording strong evidence of pancreatic disease, and which, too, are based upon physiological data, such as great emaciation, fatty stools, etc., have been found compatible with a normal pancreas found post-mortem; and instances, when there was great corpulence, have been associated with a complete fatty degeneration of the pancreas or with a closure of its duct. Severe symptoms associated with pancreatic disease, cancer being the most common, are evidently in great part due to the impaired functions of the contiguous organs (the liver, stomach, and duodenum), from extension of the morbid process, or by pressure upon the pylorus, duodenum, and bile ducts. Bernard, Schiff, and many others have endeavored to extirpate the pancreas with the view to observe the effect upon digestion and nutrition. Larger animals generally succumbed to the operation in several days, but Schiff succeeded with pigeons and ravens. In these birds no effect upon the general health was observed. These two physiologists also succeeded in obliterating the secretion by injecting various substances into the ducts, and Schiff was successful with paraffine in causing complete atrophy of the gland. As a result, there was no emaciation or passage of fat by the feces, and the animals seemed in perfect health. Friedreich quotes from Kleberg a case of the removal of the head of the pancreas in the human subject without detriment.

*As regards the effect of bile upon the digestive process, a great difference of opinion exists. Found in the intestine at its upper part, and in greatest amount at the time when the food is undergoing intestinal digestion, it is difficult not to believe but that its presence must exert a special modifying influence upon some of the alimentary principles; or that, combined with other secretions, and mingled with the products and by-products of digestion already formed, a definite and important result is effected.

Bile and gastric juice are incompatible, in that pepsin is precipi-

* This account of the bile is a portion of an editorial in the April number of the *Dietetic Gazette*.

tated when the two fluids are mingled. Watery solutions of the biliary salts have the same effect, in this respect, as bile. But with gastric juice holding peptone in solution no precipitate with bile or its salts occurs. Hence, there is no practical incompatibility when the two meet in the intestine. Bile has no part in the digestion of proteids. Upon fats the action of bile, under certain conditions, is quite manifest. These conditions are, the presence of a free fatty acid and an alkaline reaction. Under such circumstances a good emulsion will be formed, and, as Gad has shown, agitation is not necessary: "A drop of cod-liver oil, which always contains some free fatty acids, if placed in a watch glass with a 3 per cent. solution of soda, passes in a few minutes, without any mechanical mixing, by a purely chemico-physical process, into a milk-white emulsion, which, as may be seen under the microscope, consists of the very finest drops." The same chemical conditions exist in this experiment as in the intestine, the acid being derived from the action of the pancreatic juice upon the fat.

Bile, therefore, as well as watery solutions of its salts, is capable of dissolving, to some extent, free and saponified fats. But, as it has been shown that by far the greatest proportion of fat absorbed is taken up in the form of an emulsion, and that the bile is not capable of dissolving anywhere near the quantity of fatty matter absorbed from the intestine, its function in this respect has been regarded as of little importance (Hoppe-Seyler).

On the other hand, in a paper recently read before the Academy of Sciences, Paris, M. Dastre states, as a result of his investigations, that, separately, neither the bile nor pancreatic juice are capable of effecting the complete digestion and absorption of fatty substances, but their mixture is; the pancreatic secretion causes their division, and the bile promoting their absorption. This view is undoubtedly correct.

Upon starch its action is very slight, and consequently not important. That bile exerts a purgative effect has been the opinion of physicians long before the time of experimental physiology, and the experience of latter days has confirmed the fact. Notwithstanding the observations of Bidder and Schmidt and Flint upon dogs, in whom the bile was diverted from the intestine and made to discharge externally through a fistula of the gall bladder, and where there were frequent fecal evacuations, professional experience with jaundiced patients and other pathological conditions interfering with the normal flow of bile, where the stools are light-colored, dry, and infrequent, still bears out the ancient idea. Schiff proved the bile salts to be capable not only of exciting peristalsis, but contraction of the inorganic muscular fibres of the intestinal villi, thereby unloading the lacteals of fat and indirectly promoting absorption.

The bile certainly has an anti-fermentative property ; for, according to the experiments just alluded to, the feces of the animals when fed upon meat were always particularly offensive.

As to the intestinal juice, the results of the investigations of all observers show that the secretion is not very abundant, has the power, inferior to pancreatic juice, of digesting starch, has no effect upon fat and very little upon albuminoids. Its chief function, therefore, seems to be that of moistening and lubricating the mucous membrane and the food, thus facilitating the passage of the latter along the canal.

The residue of the food, consisting of undigested and indigestible matters, cellulose, starch, horny substances, etc., mingled with remnants of the juices from above and certain excrementitious substances, is forced into the large intestine through the illeo-cecal valve, an arrangement intended to provide against regurgitation into the ileum. The characters of the intestinal contents now present a marked change. In the cæcum they are of a pasty consistency, and, as they pass towards the rectum, gradually grow more solid, and the characteristic fecal color and odor are now developed. The reaction of the contents of the large intestine is acid, but that of its secretion is alkaline, showing that acid fermentation is constantly taking place there.

The mucous membrane is closely set with follicles very similar to those of the small intestine, and recent observations seem to show that this secretion possesses some digestive properties, especially in connection with albuminous substances. Hence the feasibility of rectal alimentation.

The protracted stay of the alimentary residue in the large intestine, and the fact that in herbivora a certain amount of cellulose disappears in the cæcum, has led to the supposition that certain digestive acts here take place. That the large intestine is something more than a cloaca, and that it is the seat of definite functional phenomena connected with secretion and excretion there can be no doubt.

I have thus endeavored to present to you a synopsis of the essential phenomena connected with digestion and nutrition. If I have succeeded in my aim you will agree with me that the process is a very complicated one, and is in relation with every part of the body. Unless we are familiar with such facts as have just been rehearsed, we are apt to regard the digestive operations as concerned only with the alimentary canal. On the contrary, we cannot too much emphasize the fact that their integrity is the broad base upon which a healthy body and mind can only be built.

Man, in his natural state, and all the lower animals, when they have anything to say about it, live upon a very simple and unvarying diet, and under such conditions the animal functions are properly and

comfortably performed. But we, under the rule of modern civilization, have departed very far from anything simple as to diet, and the nervous forces which control the mechanisms and chemistry of our nutrition are so worn and out of tune that it is a wonder there is any health in us. I know that our organs are, in some degree, capable of adapting themselves, by the laws of evolution, to variations of function, and I imagine that is why any of us are alive. That a vast number, however, were "unfit" and could not survive, is proved by the appalling mortality due to diseases directly depending upon perverted nutrition. And among those who are still struggling for existence, the majority are poisoned by their very food and drink and are doomed to premature deaths.

Physiological chemistry tells us that a healthy man requires, per day, 453 grammes of meat, 540 of bread, 100 of butter or fat, and 1,530 of water. I have no doubt but that this calculation is correct; but the information should be coupled with the fact that these various articles should not be disguised and rendered impregnable by the devilish devices of the modern cook, and that to derive the maximum benefit from them one must observe certain inexorable laws relating to work and rest.

The substances taken as food are :

Albuminoids.	} Those which under perfectly healthy conditions are excreted as ashes and smoke are.	{	Urea.
Carbo-hydrates.			Carbonic acid.
Hydro-carbons.			Water.
Salts.			Salts.
Water.			

These represent the fuel and the perfectly oxidized products. But a different order of events is easily brought about, and, if the cause be persistent, the perversion becomes permanent. Whether the interference originates in the alimentary canal, from improper food and drink, or whether it has its source in the brain or nervous system, and thus inhibits the nutritive process, matters little. The result will be the same.

Instead of perfect products of digestion and tissue metabolism, we shall have an accumulation in the blood and tissue of certain intermediate, insoluble, and poisonous residues which give rise to a train of distressing symptoms, and eventually produce serious pathological conditions, such as gout, rheumatism, neuralgias, calculi, renal and liver disease, etc., etc.; in short, bring about a retrograde or degenerative change throughout the body, and thus establish fatal affections of vital organs.

We know the pathology of gout; how, by the accumulation in the system of one of these partially oxidized products, the urates and their

deposition in the fibrous tissues, they corrode and destroy (Ebstein). And I have only to remind you of the urine and the urinary apparatus, in order to suggest a multitude of disorders dependent upon faulty nutrition. Sir Henry Thompson has fully elaborated this subject, and I have just read in the *Canadian Practitioner* a paragraph to the effect that "it is stated by an eminent surgeon that he is able with absolute certainty to produce renal calculi in himself by drinking white wine."

I believe that, in many instances, Bright's disease is an expression of a general systemic condition, and that it is frequently the result of impaired nutrition, the basis of which is either improper diet or improper digestion. In my opinion, the degeneration of the kidney is part and parcel of a general degeneration, which gives rise to symptoms too often wholly referred to the impaired renal function.

Besides the familiar crystallizable substances (uric acids, urates, lime oxalate, leucin, tyrosin, cystin), we have discovered that decomposing nitrogenous bodies contain a number of very poisonous alkaloidal substances, to which the terms ptomain and leucomain have been applied, and that they are very frequently present in the alimentary canal as a result of imperfect peptic action. It has been further established that there is no doubt but that many of the toxic symptoms of gastric and intestinal catarrh are due to the presence and absorption of these matters. Then, again, there are the acid and alcoholic fermentations going on in disordered digestion, and putrefaction processes giving rise to poisonous and offensive gases and products, all of which contribute to the general toxic state.

Therefore, in conclusion, I wish to enter a plea for the more thorough and general extension of the knowledge which pertains to the physiology of nutrition. Oftentimes a simple regimen and a natural life will serve us in the most extreme cases. Nature has great recuperative power, and rest is the greatest restorer.

DISCUSSION.

Dr. WALKER.—I do not know that I have anything to say that will be particularly interesting, except that I believe, as everybody believes who has studied this subject of digestion in reference to disease, that there is more in it than we have been led to believe.

Take children especially, if it were a possible thing to control to any measurable extent their diet, there would be very little for medicine to do. I also believe that if we *study* the practical relation of digestion to disease in adults, that we can do a great deal more than we do; for instance, in a certain number of cases dyspepsia has been relieved simply by inducing the individuals to take a larger amount of food—bulk, in other words. That is one of the tendencies of the age: to decrease

the bulk and to take food which has been condensed. People, to save time and the labor involved in digestion, take food in condensed shape. Peristaltic movements are thus interfered with.

There is no question but that the relation of constipation to disease is a very marked one, and that where we can relieve constipation we can sometimes prevent serious affections. Digestible and otherwise proper food will assist greatly in this prevention.

I know of a man who was attended by several prominent physicians in this city, and had been treated for dyspepsia with practically no good results. Finally he went to a physician, not myself, who told him what he wanted was a new set of teeth. He obtained the new set of teeth, and his dyspepsia entirely disappeared. That case is a marked one, but it is a good illustration of what can be done by a careful study of the digestive processes, and the application in practice of the knowledge acquired.

Some time ago I came to the conclusion that, in the treatment of chronic cases of disease (dyspepsia, if you will, because there are so many cases of dyspepsia, especially chronic dyspepsia), physicians very often fail to get good results because they cannot control the patients for any length of time. The patients become disgusted, and go from one physician to another, receiving little help from any. It occurred to me that it might be well to have a contract in cases of chronic ailments. A case appeared, and an agreement was made with the patient to stay with me a certain length of time and to follow certain directions. They were written by the typewriter—directions covering the amount of food, of the kind of food, how it should be taken; the amount and kind of exercise, bathing, etc. The results were very good. The gentleman was set in his ways, and of advanced age. He supposed he knew more than any doctor, and could not have been induced in any other way to follow such directions. I was crossing the ferry one day and saw this gentleman; he did not see me. He met a friend on the boat who said to him, "I understand you have had a very severe attack of dyspepsia?" "Yes," he said, "but I am a very great deal better. Just look at what my doctor has done." He thereupon showed the written directions, and told his friend how valuable he thought such directions were. Ever since that time I have seen the value of some form of written or printed directions for such cases. I believe we can do much more than has been done in the past, provided we come down to the treatment of such cases on "business principles."

Dr. ECCLES.—The lecturer of the evening asserts that pepsin loses its peptonizing power after reaching 110° Fahrenheit. It would be interesting to know what authority he has for this statement. In some-

thing over three hundred experiments made two years ago, nature fixed the figure for me very much higher. The turning point, instead of 110° F., is near 140° F. That the peptonizing power increases for almost thirty degrees beyond his figure there is no doubt. Evidence of the hydrolytic power referred to was found in the fact that all kinds of acids could be used with pepsin to produce peptones.

One interesting point, at least to an evolutionist, in connection with this question of digestion, is the admirable adaptation manifested by the alimentary canal in the arrangement of its acid and alkaline secreting power. Bacteria, of which we hear so much at present, may in a general way be classified as those that develop in alkaline and those that develop in acid solutions. Note, then, how admirable the trap set for them. The alkaline secretions of the mouth being very unwholesome for acid-growing bacteria tend at the very entrance to thin them out. The acid secretions of the stomach next stand ready for those alkali-growing ones that are quite at home in the mouth. Here a new batch is killed off. On reaching the duodenum, we have once again an alkaline medium to destroy more of the acid-growing kind that passed the mouth safely and found favorable conditions in the stomach. Both of the extreme wings of the bacterial army are thus met and routed.

For their farther destruction the general public have themselves devised means which we as physicians too often deem worthless superstitions. It is no uncommon thing for men to build better than they know. The latest great generalizations in ethics have developed the fact that the race was conscious of the truest and highest system of morality long before they knew anything of the reasons upon which it was founded. The Utilitarian school has conceded this fact to the Theological. In medicine we need not be surprised to find that many things the public do, which we still regard as superstitious, will turn out superior to our wisdom. We sneer or smile at the public when dosing themselves with spring medicine. This is a very old habit which the race has long survived. It has been persisted in for generations, and would long ago have killed off all so addicted had it proven injurious. The fact that health has been maintained and that the consensus of opinion declares in its favor, supports the view that it is beneficial. A very common domestic prophylactic of this kind is molasses, cream of tartar, and sulphur, which we now know has excellent antiseptic properties. The sulphur especially, in its production of sulphurous acid, tends to rid the intestines of many bacteria that were able to run the gauntlet of the acid and alkaline traps already referred to. Some of the salts taken have a tendency to check the production of ptomaines by their antifermentative powers. Calomel and the *hydrargyri bichloridum*, so often given by practitioners, are no longer credited by

many of us with their true value in a similar direction. They form excellent precipitants of ptomaines, leucomaines, and other alkaloidal products of degeneration from bacterial action. This renders these organic poisons comparatively harmless, and thereby unarms many pathogenic microbes. Without their poisonous products, bacteria are generally powerless for ill.

Dr. FOWLER.—I appreciate the shortcomings of my paper. It was an endeavor simply to call attention in a broad way to the importance of diet and going back to the natural condition of things, in order to regulate the machinery of the body which had been put out of order by indiscretions in food and drink. My experience is such that I am very enthusiastic on the subject. If you will allow me to say, I myself am an example—not a terrible one, but an evidence of what diet will do. No one ever had dyspepsia worse than I, or weighed less in proportion to his size, and simple dieting relieved me of all the toxic and nervous symptoms, evidence of brain lesions, locomotor ataxia, and a hundred things which nervous specialists will diagnose with great fluency, and which in many instances, if you are careful enough, you can get rid of by adherence to strict regimen; and by that I mean a diet that will not ferment, and one that is sufficiently nutritious to support life. In extreme cases I always come down to meat. I believe thoroughly in washing out the stomach, and, if your patients won't allow you to do it with the siphon, do it by the mouth by drinking hot water variously medicated.

I certainly was not aware that pepsin would act above 110° F., because the action of almost all ferments is regulated by the temperature by which we find them naturally surrounded. If it is true that this ferment is not destroyed at 140° F., this is an interesting fact.

The bacteria which are in the alimentary canal, of course, are very various and very numerous, but not all of them are pathogenic, and a great many of them are perfectly harmless.

The pathogenic bacteria unfortunately are very difficult to kill. It takes pretty strong solutions of alkalies and acids to kill them, and a good many of them live in the weak acid solutions of the gastric juice and the mild alkaline solutions of the bile, saliva, etc.

IS THE IMMEDIATE TREATMENT OF RECENT FRACTURE OF THE PATELLA BY WIRING A JUSTIFIABLE OPERATION ?

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The question which forms the title of this paper is by no means a new or unagitated one, as it has formed a part of the discussion which for the last few years has occupied the attention of surgeons in regard to the propriety of treating any form of fracture of this bone by metallic or other suture. It seems, however, to the writer that conclusions based upon the study of statistics which include *all* cases of operation on fractured patella, recent or old, or deductions drawn from experience gained in the treatment of both classes of injury, useful as they may be in settling certain questions of technique and mechanical appliances, are still far from settling the answers to the query, and for obvious reasons. In the recent injury the surgeon has to deal with conditions, constitutional and local, very different from those which obtain at later periods. The muscular and synovial structures in immediate relation with the injured bone are, as a rule, in a perfectly normal state, so far as nutrition and capacity for rapid repair are concerned, and while perhaps the tendency to inflammatory complications as the result of operative interference may be slightly greater, the fact that the surgeon in the performance of the modern operation is putting the parts into the very best physiological condition for repair, renders the danger comparatively slight.

In old cases, on the other hand, where the operation is rendered necessary by unsatisfactory results of treatment, the reverse is true; as a rule, both muscular and joint tissues have undergone nutritive and pathological changes, which in themselves modify both the method of operation and the tendencies to satisfactory repair, and while even here the treatment by suture has obtained some of its most brilliant results, it has also had its most signal and frequent failures. It is for this reason that in selecting the cases which he will lay before you to-night, the writer has confined himself to the study of such only as occurred within the period after the reception of the injury, during which reaction from the traumatism and its accompanying inflammatory and reparative changes usually occur. This may fairly be stated at fourteen days, and to this period the term "immediate" may justly be applied.

as it is certain that by this time, in favorable cases, union may be well advanced, as will be shown further on. The writer is of course aware of the numerous successes attending operations performed at a much later date upon "recent" fractures, but if any effect upon the results of this method of treatment is produced by the proximity of the date of operation to that of injury, the limit above proposed is certainly a fair one, and as a matter of fact, if surgeons are at present agreed as to any one point in connection with this operation, it is as to the eminent propriety of its adoption in cases of compound fracture, arguing with singular inconsistency that procedure perfectly applicable to the treatment of an injury under the worst possible conditions, is no longer so when the dangers arising from these conditions are no longer present, or almost absolutely under the operator's control, and this in spite of the repeatedly proven fact, that even under the most untoward circumstances a perfect result, so far as the preservation of life and limb, has, as a rule, been achieved. It would certainly seem to the writer a waste of the Society's time to go over many of the arguments for and against the operation which have within the last few years been so frequently brought forward, and concerning the value of which the minds of all present are already made up, the simple question presented by him is as to whether, in the light of our present knowledge, a conscientious surgeon is fully justified in wiring a fractured patella within the time after the injury specified above. The direct answer to this question hinges upon the ideal result to be achieved, with comfort and safety to the patient, and rapidity as to union of the fragments. It is idle to claim that because under the most favorable circumstances the sufferer from this accident can acquire in the course of a year or two a limb upon which he can move about upon level surfaces or under ordinary circumstances, this result is all that is to be aimed at. The ideal should be a limb functionally as perfect, or as nearly so as possible, as before the accident; and this it needs no argument to prove can only be secured by osseous union of the fragments. That this fails in the great majority of cases under ordinary methods of treatment is a matter of common experience, and the highest aim of the surgeon in the past has been to obtain as short a ligamentous bond as possible, securing its permanency in rare instances by the application of mechanical safeguards for a longer or shorter period; as a rule, however, finding that after months of careful treatment the initial movements of flexion were the beginning of a greater separation of the fragments. Certainly, when we compare with such a picture as this the ones presented by patients who within two weeks are walking about, and at the end of six are walking a mile, or working at heavy employments, and kneeling, dancing, or playing football in a few

more, it certainly would seem that the effort to obtain such results is not only justifiable, but imperative.

That osseous union can be, *as a rule*, obtained by no other treatment is amply demonstrated by McEwen,* who has shown that an almost invariable feature of transverse fracture of the patella is the entanglement of the prepatellar aponeurotic structures in the space which exists between the separated fragments. His conclusions are based upon dissection and observation in eight consecutive cases coming under his own notice, and five cases collected from independent sources. These thirteen cases published in the paper just referred to are reinforced by the following: Twelve reported by Perry in the *British Medical Journal* for 1885, p. 283, and two reported by Prof. J. D. Rushmore, which were discovered post-mortem in patients dying from other causes, but within a few days of the injury to the patella. If such a condition exist, even to a slight degree, osseous union does not occur, or at least with very few exceptions; and one can easily understand how it may be possible to elicit characteristic bony crepitus by approximation of the posterior edges of the upper and lower fragments, when the anterior surfaces may be separated by a very appreciable space.

Under such circumstances the surgeon, who, trusting to ordinary retentive apparatus and the ease with which the crepitating fragments are retained in position is led to hope for a bony union, is surely disappointed, since the wedge-shaped space is filled with fibrous material enclosing the torn shreds of the capsule, and yields gradually as flexion and joint movements are brought into play. All of those present have seen such cases, many of which are discharged with closely united fragments, only to return at longer or shorter intervals with the usual unsatisfactory results. When we add to this the frequent complications which make convalescence or recovery from fractured patella a tedious and painful process, in a large proportion of cases submitted to the ordinary forms of treatment, another strong argument is adduced for operative relief. Ankylosis, synovitis, the prolonged necessity for the use of crutches, posterior splints or elastic knee-caps, are among the most common of these, and few surgeons who have seen many of these cases would dissent from the dictum of Malgaigne, "I have never seen the function of the limb completely restored, even when the separation was limited to one-third of an inch," while Hamilton speaks of "a ligament varying in length from one-quarter to half an inch" as having been the result in five-sevenths of his cases, and also speaks of "the ankylosis which usually follows the recovery of the patient, and which is often almost com-

* *Annals of Surgery*, March, 1887, p. 177.

plete," recommending for its relief long continued passive motion, but warning the surgeon also against the danger of rupturing the newly formed ligament.*

It would be useless to quote further from authorities upon this point, since all agree that with rare exceptions—in cases due to direct external violence or under peculiarly favorable circumstances—the conditions mentioned above are to be expected as the natural result of the old methods of treatment, the fact being that the surgeon can in no instance predict from the beginning of the case what the behavior of the united fragments is likely to be or the condition of the underlying structures.

On the other hand, the claim made by the advocates of prompt wiring *in recent cases*, that a favorable result as to both fracture and functions of joint can be expected with confidence in the vast majority of cases, and with less danger to life than attends the use of Malgaigne's hooks, is substantiated both by general statistics and the special list submitted below.

As bearing upon this point and in connection with it, a recent statement of Volkman's may be of interest. As is well known, he has been in the habit of gaining access to the knee joint for the purpose of operating on strumous arthritis or tubercular disease by opening it anteriorly by means of a transverse incision and saw-cut through the patella, the fragments being turned back, and at the close of the operation replaced and wired. In a communication published in the *N. Y. Record* for 1885, p. 85, he is quoted as saying that he had never yet failed to obtain complete bony union. Volkmann's operation when properly performed leaves the joint in precisely the same condition as when wired for fracture. I have admitted to my list two cases, one of accidental, the other of deliberate section of the patella, treated by wiring, since they may help in determining the answer to the question under consideration.

If, then, osseous union *is* the desideratum in fractures of the patella, as in other bones of the skeleton, and can only be obtained by accurate and continuous approximation of the fractured surfaces to each other, the question at once arises as to whether by any less heroic method of treatment the same result can be obtained. To this query a negative can be promptly given, since with the exception of Malgaigne's hooks, and their modifications no apparatus at present in use, can be unfailingly relied upon to retain the broken surfaces in continuous apposition. The rubber accumulator, the buckle and straps, the wedges and pads, the splints and pulleys of the past, and the plaster dressings of the present all fail in this one particular, while even

* Hamilton on Fractures, p. 441 and 449.

the hooks, though freed from this objection and rendered comparatively safe by being used with antiseptic precautions as suggested by Treves, still fail to overcome the essential objection to all treatment but wiring, in that the entangled fibrous structures are still left between the bony surfaces to prevent osseous union.

That McEwen's views are correct in this matter there can be no reasonable doubt, since even in the small number of cases which form the subjoined list the complication is distinctly described as having been seen in eighteen or 36 p. c., and from the descriptions given of most of the operations, it can fairly be assumed to have existed in nearly all.

If, then, the preceding facts are correct, it only remains to prove that the operation of wiring is as safe as other plans of treatment to establish its superiority to them in every particular. In the discussion of this question the writer would again draw a sharp line between immediate and late operations and their results. Of the latter as a class, so far as he knows, no tabulated statement exists, but Prof. Dennis has shown that of 186 cases of all kinds submitted to the operation, there were 11 deaths, of which 16 per cent. occurred in the first 50, and 3 per cent. in the remaining 136. This would lead to the inevitable conclusion that as the technique of the operation has improved the results have been most decidedly bettered. This inference is confirmed by reference to the appended list, which shows that out of the total number of cases it contains, not a single death occurred, although six of the fractures were compound and five refractures, some of which occurred in the persons of habitual drinkers, or under circumstances which promised anything but success.

The damage to life may, therefore, be considered as but very slight; what are the results so far as the limb and joint are concerned? In Prof. Dennis' table above referred to, there were of the whole number of patients four who suffered amputations, and thirty-one who recovered with partial or complete ankylosis, while thirty-four had their convalescence protracted by suppuration. Out of the forty-nine cases appended, I find but one case of perfectly stiff joint, and this followed a compound fracture, the recovery from which was complicated by a severe synovitis, the ultimate record in this case being "joint stiff, but useful; can walk without a cane, and is able to work." This is the worst result I can find in searching the histories of the cases presented, as impartially as possible. In seven other cases the notes on discharge of patient are as follows:

Compound comp. frac. in a drunkard	-	Flexion on discharge,	45°
Refracture of patella	- - - -	" " "	130°
Simple fracture of patella	- - -	" " "	30°
" " " "	- - -	" " "	45°

And in three other cases reported by Phelps, whose histories I could not learn, the angles of flexion are given as 100° , 45° and 90° . As two of these patients were at work respectively in thirteen and sixteen weeks, I believe that the results can be assumed ultimately to have been even better, since I find that in many of the reported cases of wiring, the improvement in flexion was rapid as the patient resumed his ordinary avocations. Here, then, we have one patient out of forty-nine with a stiff but useful joint as the result of an injury which would but a few years since have been considered as only remediable by amputation, and with flexion of the joint limited to less than a right angle, whose chances for ultimate gain in this respect were very fair; while in all the rest the joint was practically restored to its original usefulness, and in four-sevenths of the cases the union secured is distinctly reported as osseous, with a fair deduction that it existed also in a large number of the remainder.

So far, then, as an examination of reported cases is concerned, the writer claims that immediate suture of a fractured patella is not only a justifiable, but an eminently proper and desirable operation. First, in all cases of compound fracture, and, second, in all cases of fracture due to indirect violence or muscular causes, where the general condition of the patient is such as to admit of any serious operative interference.

The time at which the operation should be done is still a matter of discussion. Leaving out of the question the compound cases, in which of course early relief was imperative, I find that 33 were operated upon during the first week following the injury, and 12 during the second. Of the first number, over half were operated upon on or before the third day, and most of McEwen's cases during the first 36 hours, the inference from a comparison of cases being, that provided an aseptic condition of the joint at the time of applying the dressing exists, and thorough provision for drainage is made, the general condition of the patient immediately after the injury and the convenience of the operator are the only controlling factors in deciding this point. It would but waste the time of the Society to prolong the examination of records as to the comparative merits of the transverse and vertical incision, the material for suture, etc., though these are all interesting points. Some other questions, however, may be of interest from a practical point of view, a few of which are these: The propriety of leaving the wire. This practice, followed by the earlier operators, has been carried out in twenty-one of the cases, so far as can be ascertained, and in fifteen the wires have been removed, the results have apparently been as perfect in one set of cases as the other. In two cases, those of Wheelhouse and Kesteven, not only was the wire hammered in, but no drainage employed, and yet the results were perfect with osseous union.

In at least three cases, however, one of which was in a patient of his own, the writer has known of some inconvenience but not serious trouble from the projection of the end of a broken wire under the skin.

In this connection the following case is of interest, an account of which appears in the *Lancet* for 1887, I., 572 :

A sailor had been under the care of Mr. Mayo Robson for an ununited fracture of four months' standing. There was a separation of one and one-half inches, and the operator found great difficulty in approximating the fragments. This was finally accomplished by section of the quadriceps, and the lateral expansion of the vasti muscles. Three gold wires were used, and in three or four months the man went to sea. Falling at sea, he was sent to the Greenwich Hospital with an inflamed knee, when, on examination, a wire was found protruding from the skin and sticking into his clothing as he walked. In the following April the joint was opened and drained, and one of the wires removed. The fluid withdrawn was simply turbid lymph, not pus. A rapid recovery ensued, only interrupted by attacks of epilepsy to which the man was subject. In July two more wires were dissected out. Shortly afterwards the man again fell, probably in a fit, and re-fractured the same patella, when another fragment of wire was removed. In September the man was again walking about. As the lower fragment was too small to wire, he was treated by rest and strapping. Examination of the patella showed osseous union of the old fractures, and that the second fracture was below the level of the first. As a comment upon this case, it may be stated that the result obtained by Mr. Robson with so much difficulty by section of the vasti and quadriceps attachments can, it is claimed by Wheelhouse and Sirvan, be usually secured by tenotomy of the quadriceps tendon alone; in fact, the latter gentleman treats his cases of fractured patella where operation is considered advisable by making a long vertical incision, and under strict antisepsis cutting the rectus tendon, using pressure only to keep the fragments in apposition.

Passive motion, and the time at which it should be applied, is another topic of interest. The suggestion of Sir Joseph Lister in regard to this point is, that gentle passive motion should be instituted at the end of a month; but, as will be seen, many of the cases were allowed to use the joint, at periods varying from two to three weeks, with no apparent harm. The practice has been since followed by Lister himself in some of his reported cases. I am informed by Prof. Wight that in one of his cases, wired on the twelfth day after the accident, the fibrous union, though faulty, was so firm that it could

only be removed from the fragments by sawing it off; and Prof. Dennis has demonstrated in a case of a patient dying six days after the operation (from causes not connected with it however) that union was already so firm as to have readily borne any strain upon it which the act of walking might produce. Two weeks, therefore, would seem to be a perfectly safe time at which to begin to impose movement upon the joint, and such a course would seem likely to prevent impairment of flexion. The last topic of interest is the treatment of the wounded surfaces of the soft parts. Here the ideal plan would seem to be careful and thorough irrigation of the whole joint with a $\frac{1}{6000}$ solution of the potassio-mercuric iodide, the introduction of bone drains, and careful suturing of the capsule and fibrous structures, where wounded, with fine catgut, as suggested by Dr. F. C. Fuller (*Med. Rec.*, N. Y., 24, 675); the application of a continuous suture of the same material to the incision through the skin; and finally the application of iodoform and dry absorbent dressings, over which a light plaster splint may remain until the time for passive motion arrives or the necessity for change of dressing is indicated. With such precautions against disaster, any surgeon who is capable of properly performing the simple mechanical steps of the operation antiseptically may count upon success as certain as those which follow any of the other great operations in modern surgery.

In connection with his paper, Dr. Rockwell presented a patient upon whom he had operated for a fractured patella, with the following history:

Mrs. Bella M.—was admitted to St. John's Hospital September 4th, 1885, with a comminuted fracture of the left patella. Just previous to admission she had fallen in coming down stairs, and immediately after found herself unable to rise or walk. She was brought to the hospital in an ambulance, and for several days treated with evaporating lotions and cold external to the joint.

September 10th.—The acute symptoms had subsided, and a careful examination showed that the patella was broken into three fragments. A plaster splint was applied from the foot to the middle of the thigh, the knee being left uncovered. A figure of 8 bandage was then carefully adjusted, by which the fragments were held in apposition. This was readjusted occasionally until October 10th, when close and firm fibrous union was found and the splints removed.

October 20th.—The patient was walking about on crutches, the joint being a little stiff. In ten days more she was walking with the aid of a cane only, and by November 6th was using the knee fairly well, and was submitted to an operation for hæmorrhoids which were troubling her.

**TABLE OF CASES IN WHICH THE PATELLA WAS WIRED WITHIN
FOURTEEN DAYS OF ITS FRACTURE.**

No.	Operator	Age & sex	Character of injury	Date of operation	Apparatus used	HISTORY	Result	Kind of Union.	Authority
1	Lister	M 40	Simple transverse	14th day	Yes	Plots removed from joint, drainage; wires removed in 8 weeks. Discharged in 10 weeks	At time of discharge flexion 30° No further history		Lancet, Nov. 3d, 1883.
2	"	M 37	Simple transverse, with effusion	6th day		Extension into joint, drainage; wires removed in 8 weeks. Discharged in 10	Perfect joint	Ossseous	" "
3	"	M 62	Simple transverse, in a drunkard	2d day		Joint badly swollen; wire hammered and left in; drainage. Operation followed by delirium. Discharged in 6 wks	Perfect joint	Ossseous	" "
4	"	F 57	Simple transverse	7th day		Joint inflamed till day of operation; wire hammered in. Passive motion in 2 weeks. Discharged, walking in 6.	Perfect joint	Probably osseous.	" "
5	"	M 67	Comminuted fracture and loose fragments	6th day		Upper fragment wired to leg; put; ends hammered down. Discharged, walking, in 8 weeks	Perfect joint		" "
6	McEwen	M 42	Multiple fracture in a innatic	12 hours	Yes	Chronic gut used. Up in 10 weeks. Discharged, walking	Impaired flexion	Ossseous	Lancet, Nov., 1883, page 846
7	"	M 24	Multiple fracture	24 hours	Yes	Silver wire and drainage, wires removed in 6 weeks. Discharged in 11	Perfect joint	Ossseous	" "
8	"	M 30	Simple transverse	36 hours	Yes	Wire removed in 5 weeks. Walked about in 7 weeks.	Perfect joint		Annals of Surgery, vol. v, p. 186
9	"	M 29	Simple transverse	14 hours	Yes	Wires and drainage; healed under first dressing, wires removed in 6 weeks; walked in 8	Perfect joint		" "
10	"	M 40	Multiple fracture	34 hours	Yes	Wires withdrawn in 6 weeks. Some stiffness. Flexion to 90° in 3 months	Good joint		" "
11	"	M 41	Simple transverse	2d day	Yes	Wire withdrawn in 6 weeks. Wound healed under one dressing. Walked in 8 weeks. Flexion to 90°	Good joint		" "
12	"	M 53	Simple transverse, joint full of blood	24 hours	Yes	Wire withdrawn in 6 weeks. Wound healed primarily. In three months perfect joint	Perfect joint	Ossseous	" "
13	"	F 35	Simple transverse, with acute synovitis	14th day	Yes	Suturing and treatment as above.	Perfect joint		" "
14	Walsh	M 14	Multiple fracture	2d day		Wired through lig. patellae, wires left. Walked in 7 weeks	Good flexion, but cannot kneel		Lancet, Dec., 1883, p. 1,085.
15	Jessop	M 17	Comp. com. fracture, joint full of mud and blood for 11 hrs	1st day		One wire suture and drainage, daily dressing, suppuration. Wire removed in 30 days. Passive motion then begun. Discharged walking in 10 weeks	Perfect joint	" Firmly consolidated."	Brit. Med. Journal, June, 1883, p. 1,119
16	Von der Meulen	F 45	Transverse	8th day		Wire hammered down and left	Perfect joint		Lancet, 1881, vol. 1, p. 378
17	"	M 49	Simple transverse	9th day		One thin wire platinum. About in 7 weeks, but with slight suppuration	Perfect flexion and joint	Fibrous and weak	" "
18	"	"	Refracture of above five months after	2d day			Perfect joint		" "
19	Wheelhouse	F 24	Comp. fracture, joint full of blood; patient drunk	5 hours		Wires left; no drainage. Up in 3 months, discharged in 6.	Perfect joint.	Ossseous.	Brit. Med. Journal, June, 1883.
20	Lynch	M 33	Simple transverse, great effusion	11th day		Wire hammered and left. Up in 4 weeks; at work in 14 weeks as a light hand	Perfect joint.		Lancet, 1884, vol. 2, p. 574
21	Ward	M 60	Simple transverse, great effusion	3d day	Yes	Wire left in. Up in 3 weeks, discharged in 6, walking alone and able to kneel.	Perfect joint.		" "
22	Bloxum	M 27	Simple transverse	7th day		Discharged, well, in 7 weeks	Perfect joint	Ossseous.	Lancet, 1886, vol. 2, p. 13
23	"	M 25	Simple transverse, bursa full of clots	6th day		One wire used; drainage; left in 5 wks.		" Good Union."	Lancet, 1886, vol. 1, p. 301.
24	Stdney Jones	M 19	Compound fracture	1st day		Fragments removed and joint irrigated, 2 wires, drains, and sydnis. Patient left in 10 weeks, on crutches. Recovery complicated by synovitis. Walked in 5 months	Joint stiff but useful. Walks without a cane; can work	Ossseous.	Lancet, 1886, vol. 1, p. 871
25	Cameron	"	"	2d day		Drains removed on 5th day. Abscess of thigh complicated recovery	Some stiffness of joint.	Ossseous.	Archives, Paris, 1887.
26	Fuhrer	"	Simple transverse	2d day		Discharged in 8 weeks	Can bend joint 45°	Ossseous?	N. Y. Med. Journal, 1886, p. 403.
27	Clark	M 15	Transverse cut of patella into joint by hay knife	1st day		Joint cleaned of clots. One wire; removed on 35th day. Discharged in 3 months	" Somewhat stiff knee "		Brit. Med. Journal, 1883, p. 1015.
28	Fuller	M 45	Comp. com. fracture in a drunkard	2d day		Double fine wire and one gut suture drains. Capsule sutured and drained. Discharged in 11 weeks	Flexion to 45°.	Ossseous.	N. Y. Med. Record, 1883, p. 675.
29	"	M 24	Simple transverse	1st day		Lower frag. mortised into upper, and wired, capsule sutured, 1st dressing on 14th day. Joint less by 4 inches than when applied. Walked in splints in 7 weeks		Ossseous.	" "
30	Hinton	M.	Simple transverse.	8th day.		Wired and drained. Walked in 5 weeks, and 1 mile in 6 weeks. Played foot-ball next winter.	One leg as good as the other.	Ossseous and put. Larger than its fellow.	Brit. Med. Journal, 1885, vol. 1, p. 480
31	Morris, R. T.	M 27	Simple transverse fracture, five months after first.	8th day.		Two wires used; drains, and sutures of capsule; wires left in. 1st dressing on 12th day. Walked in 9 weeks	Good as other leg.	Probably fibrous.	Med. Record, 1885, vol. 2, p. 63
32	"	M 52	Comminuted fract., with great swelling and inflammation.	9th day.	Yes	Same as above. Wires left in; 3 lines of sutures	Stiff, but satisfactory joint at first. Ultimately good result.		" "
33	"	26	Patella saved through, and joint opened for strumous disease	1st day.		Same as above.	Good result; line of union could not be felt at end of 4 weeks.	Ossseous.	" "
34	Chelms	M.	"	3d day.		Discharged in 9 weeks, at work a month after.	Flexion 100°	Ossseous	N. Y. Med. Journal, 1886, p. 405
35	"	M	"	7th day.		Discharged in 6 weeks	Flexion 45°	Not osseous through-out.	" "
36	"	M	"	7th day		Discharged in 6 weeks, at work as truckman in 10 more	Flexion 90°	Ossseous	" "
37	Bernays	M.	"	2d day.		3 wires removed on 80th day. Deep sutures of soft parts, but no drains. Splints removed on 90th day	Perfectly movable joint.		" "
38	Denits	M	Comp. fract., joint full of dirt and blood.	1st day.		Irrigation with mercuric bichloride, 1-3 000; wired and drained. Walked well in 8 weeks.	Perfect joint.		N. Y. Med. Journal, 1886, p. 371
39	Linnudham	M 37	Transverse fracture in a drunkard, joint full of blood	12th day		Wires twisted and left in; drainage. Abscess of thigh complicated recovery. Walked a mile at 10th week	Perfect joint	Ossseous	Brit. Med. Journal, 1885, p. 646
40	"	"	"	7th day.		This case and one following were exhibited at the S. E. Branch	Perfect joint	Ossseous	Brit. Med. Journal, 1887, Dec. 21st, p. 1407.
41	"	"	"	7th day.		Brit. Med. Association, Dec. 8th, 1887, with only a meagre history.—It,	Perfect joint	Ossseous	" "
42	"	M.	"	14th day.	Yes	Wired, and ludoform left in wound. Walked 1½ miles at 6th week. Temperature never above 99.5°	Good joint.		Brit. Med. Journal April 9th, 1887, p. 777
43	Kesteven	M 21	Simple of left pat. Talipes equinus of right foot	5th day		Wire hammered in, no drainage, wound first dressed on 25d day. Union sound. Plaster splints for 3 weeks		Ossseous	Lancet, 1887 vol. 2, p. 230.
44	J. S. Wight	M 23	Simple fracture in a deliriated drunkard	10th day	Yes	Sutures freshened and wired, wires left. Drains removed in 4 days. Walked on crutches in 4 weeks; discharged in 5.	Perfect joint	Ossseous.	Personal communication.
45	"	M 24	Third fracture of same patella	19th day.	Yes	Operation as above. Drains removed in 4 days. Up in 4 weeks. At work as longshoreman in 2 more.	Perfect joint.	Ossseous.	Personal communication.
46	G. R. Fowler	M 48	Transverse fracture, effusion and synovitis	2d day.	Yes	Annealed piano-wire and bone drains used. Healing under one dressing in 5 weeks. 2 lines of sutures in capsule and skin. Wire removed on 35th day. Walked on 24th day; at work as a laborer in 6 weeks from injury	Perfect joint.	Ossseous	Personal communication.
47	"	F 35	Comp. com. fracture	3 hours	Yes	Two lower fragments wired together and then to upper; wire left in; drainage. Primary union under one dressing; removed for first time on the 14th day, capsule sutured; mercuric fragment came away in two months	Flexion 90°, ultimately perfect joint	Ossseous.	Annals of Surgery, 1885, vol. 2, p. 247
48	"	F 43	Refracture of patella, with hydrarthrosis	7th day.	Yes	Edges sawed off and fragments wired; wires removed in 8th week. Capsule sutured. Discharged in 8 weeks	Flexion 130°.	Ossseous.	Personal communication.
49	"	F 30	Refracture of patella, with chronic synovitis	3d day.	Yes	Operation as above. Bone drains, wire broken and removed at first dressing, 6 week after operation; primary union.	Perfect joint.	Ossseous.	Personal communication.

November 18th.—She was able to walk up and down stairs, and left the hospital with every prospect of a good permanent result.

On the 22d of February, 1887, she was readmitted to the hospital, complaining that she could not extend the leg on the thigh, and that this deficiency of function was sufficiently serious to interfere with her ability to earn a livelihood. On examination, the fragments were found separated by an interval of about two inches, the connecting band being firm but very thin. The patient's condition was not at all a favorable one for operation, as she was anæmic and showed many of the constitutional signs of chronic renal disease; but as no albumen or casts were found on thorough examination of several specimens of the urine, she was put upon preparatory treatment for three weeks, when, as her general condition had improved, she was submitted to operation on March 15th. The joint was opened by a transverse incision over the space between the fragments; the uniting band was divided and the edges of the upper and lower fragments freshened by sawing off a thin slice of bone. The lower fragment was composed of two of the three resulting from the original injury.

Two silver wires (24 guage) were introduced, the joint thoroughly irrigated with a 1-6,000 solution of the potassio-mercuric iodide, and a drainage tube passed through the joint from side to side. The wires were then twisted and their ends brought out of the skin incision. The edges of the capsule and the wound were approximated with catgut sutures, and the wound dressed with iodoform and paper-wool, over which a light plaster splint was applied. The next day, as the patient complained of a sense of moisture and a trickling feeling about the joint, the dressing was exposed by means of fenestra in the splint, and found perfectly dry and sweet.

March 18th.—The drainage tube was moved, and the wound found entirely healed. It was redressed, and left undisturbed for the next five weeks, when, on April 29th, the wires were removed. The inner one was broken in the attempt, and a portion left, as most of it had been withdrawn, and the fragment seemed deeply imbedded in the bone.

May 5th.—The patient was walking about a little, and a few days later began to regularly exercise the limb.

June 9th.—As she was walking about as well as ever (but with flexion limited to about 50°), and was able to ascend and descend the stairs, she was discharged. A few weeks after this period she called at my office with a greatly improved limb, as flexion was rapidly returning, and I have not seen her since until within a day or two. The fragment of wire, she thinks, gives her an occasional reminder of its

presence, but with that exception the limb, she thinks, is as good as ever. Though this is not a case of primary wiring, it is presented as containing many elements of interest in connection with the subject.

DISCUSSION.

DR. CREAMER.—I have had no experience in wiring of the patella that I cannot record a case and anything that I can say upon the subject would be determined from the slight literature that exists and what I have heard to-night. From what I have heard I should agree with Dr. Rockwell that the earlier the operation was performed the better, and I think that it is a justifiable operation. Of four cases of Hardie of Manchester in 1885, reported in the *British Medical Journal*, every case was successful, and in four months after the operation the patients could flex the knee at an acute angle. Out of the forty-nine cases that were presented to the Société de Chirurgie by Chauvel, in 1883, I think thirty-five were successful, ten non-successful and three deaths, and one submitted to a secondary amputation. That looks rather against the operation, but I don't find any account whether they were operated upon immediately after the injury or not. I deduce from Dr. Rockwell's paper that I should be in favor of an early operation, and from the very fine result obtained in the patient which he has presented that the secondary operation has been very good, and I think justifies the procedure.

DR. FEELEY.—I have had no experience of the operation, but would be decidedly in favor of wiring, from what I have heard of the operation, and from Dr. Rockwell's paper and the case presented to-night.

DR. WIGHT.—I think, Mr. Chairman, that I am prepared, as I have already stated publicly, to endorse the operation of wiring of the patella when it is fractured. I think if it is not already an established operation that it will be. There is of course some objection on the part of excellent surgeons which we may heed, but other things being equal, I am as I stated before prepared to endorse and perform the operation.

Now, as to the time of getting into the joint, I would not as a rule do it quite early. I should postpone it until towards the tenth day, perhaps a little later or perhaps a little sooner. I believe there are some patients you can operate upon at once to advantage, but as a rule I think it is best to wait until the tenth day.

Now, as to the way of getting into the joint, I am very much in favor of the longitudinal incision and that may be made very small. Of course I understand that in an old fracture it may have to be made larger, but in recent fractures I am entirely confident that an incision of very moderate extent, say two or two and one-half, or at times three

inches would be the most desirable. I have made a transverse incision in only one of my cases and that was my first case, and I think I made a mistake. In an old case especially I think very certainly you would be obliged to cut through important structures or tissues; not that it interferes with a fair result, but it impairs the perfection of result that we all aim at.

I object to two sutures. It is a law of logic that when one principle will answer it is weakening your argument to use two. When one suture works well it is damaging to your work to use more; it takes time and it damages the patella. I am very confident that one wire, in all recent cases especially, and I am sure in later cases, is entirely sufficient. If one man can do a piece of work in a day it is useless to put two men at the work where one man will do; so I use but one wire. I have used the silver wire made by Tiemann and like it very much. I think there is one per cent. of alloy of copper in it to make it a little tensile or tough. If it is used with care I don't think that the excessive strength of the wire is so important. Iron wire, steel wire and all that class are inflexible and I think in the main would be objectionable. I like silver wire best, but gold wire would doubtless be very desirable. In connection with that I don't think that wire is the ideal suture. I have during the winter obtained the largest kind of cut-gut and have it in preparation for use, and I think I shall use it with the hope that it may not be absorbed sooner than fifteen or more days, and if it is not then it will answer the purpose and need not be taken out. I believe some one in New York either has made or is ready to make experiments in that line, and I think that a suture of that kind or something like it, which is absorbed within two or three weeks, could be used with advantage. Aside from that I hold to the silver wire, and in three cases I have left it in and found no inconvenience. In the two perfect cases which I had and which I have already reported, the wire is in and there is no inconvenience whatever. I offered to take it out but the patients declined, seeming to have a sort of affection for it.

I prefer the rubber to the bone for drainage. I may be mistaken, but that is my opinion, and it is the best opinion I can form, although I have never used the bone. The rubber has peculiar properties that are advantageous. I put my tube (the tube has holes in it so as to drain perfectly) under the patella and leave it there, and at the end of two or three days pull it out from one side and cut it off, and then the rest of it is very easily removed. It does not act as a foreign body at all. It is a small rubber tube, a rubber that is rubber, pure rubber and nothing else. I put it in only for one purpose, and that is to draw off for a short time the excessive effusion of blood or serum from the cut surfaces, and when that stops I take it out. If I was sure that there would be none of this, I would not put it in at all.

There is one other point: I believe that the interrupted suture in these cases would be better than the continuous suture. I have used it and prefer it, although I use the continuous suture from time to time; but in this particular operation I think the interrupted suture is best; it may take more time, but I think it is very desirable. Taking it all in all, I am prepared to recommend the operation.

I may say that I have used Malgaigne's hooks, but I don't use them any more. They are a relic of a by-gone time; they are a barbarism; they are objectionable, and I doubt whether the statements are true that in so many cases bony union is obtained from Malgaigne's hooks?

I have seen patients treated under the ordinary plan claimed to be bony union, and that looked so; but I have watched them, and invariably found separation. I never seen a case of bony union of the patella except by wiring, and I have seen a good many cases. I have seen a number of cases where it is claimed that there has been a fractured patella and bony union, but the evidence given on the other side was a transverse furrow. Men invent instruments and methods of treatment, and they become partisans. They are not strictly and scientifically honest. They do not mean to be dishonest, but they are deceived, and they claim more for their apparatus than belongs to it. I hope we won't carry wiring of the patella so far as that, but that we will take all of its shortcomings into account, and not claim more for it than there is in it.

Dr. WUNDERLICH.—I have seen many cases of fractured patella and the unsatisfactory results from the old style of treatment, and therefore I would be much in favor of the wiring, but I have not had any opportunity to do it.

Dr. WACKERHAGEN.—I should be in favor of immediate operation by wiring where it is impossible to bring the fragments into apposition by other means.

With regard to the use of catgut, I would state that Dr. Gerster has used it successfully in a case of fractured patella at Mt. Sinai Hospital. I would like to ask Dr. Rockwell if he considers it necessary to use drainage tubes in all these operations:

Dr. ROCKWELL.—I could hardly answer that question without a larger experience than I have. I believe drainage tubes are used in many cases where they are not necessary. In the particular case which I have presented there was absolutely no discharge, and the tube might as well have been left out as not.

Dr. WIGHT.—Did I understand you to say, Dr. Wackerhagen, that Dr. Gerster had bony union after using a catgut suture?

Dr. WACKERHAGEN.—Yes, sir.

Dr. ROCKWELL.—MacEwen, in the case of a man 42 years of age—used chronic gut. It was a multiple fracture in a lunatic, who was delirious for some days after the operation. The patient was up in ten weeks, and discharged, walking, with impaired flexion but osseous union.

Dr. THALLON.—I think Dr. Wight's point, that the incision should be longitudinal and not transverse, is a good one, and Dr. Rockwell's case seems to bear that out. On examining that case at the ends of the transverse incision, there was evident marked gluing together of the capsular structure with the coverings of the patella and skin, so that all moved together. That might have been avoided if a longitudinal incision had been made, leaving more suppleness under the skin.

In regard to drainage, I do not at all agree with Dr. Wight in preferring the rubber drain to the bone in all cases. The bone drain has the advantage that while it efficiently drains for a few days, if no drain is needed it is absorbed, and there is no harm done, whereas the rubber drain is a foreign body, and as such may do harm. The length of time the bone drain will resist absorption depends on its mode of preparation. By using chromic acid you can toughen bone drains in the same way that Lister does catgut.

Dr. BOGART.—I only want to mention one case which came under my notice, in which the fragments were so far separated that even with extensive division of the quadriceps extensor, according to MacEwen, it was impossible to get the fragments together. A very stout wire was used, and when it was twisted one of the fragments split, and the resulting fragments were wired and the patient was put to bed. After a very great deal of pain for two or three days, the wires tore out again, and the case resulted in necrosis in the bone of the patella and failure of union.

Dr. PILCHER.—That was an old case. The point under discussion more particularly is the justifiability of operation in recent cases.

It seems to me that we should be guarded in our statements in reference to this matter. This whole principle of exposing the patella and refreshing the fragments and bringing them together, either in old cases or in bringing together the freshly broken fragments in recent cases, is the outgrowth of the antiseptic principle, and to a very considerable extent it may be considered as one of the most difficult achievements of antiseptic work. Now, it seems to me that, in expressing an opinion upon the justifiability of an operation of this kind, we ought to qualify it somewhat in this way: That a surgeon who has become a master of the practice of antiseptics, as well as the principles, and who is able to control with certainty the conditions which surround his patient, would be justified in opening the knee joint in a recent

case of fracture of the patella and bringing the fragments together ; but I doubt very much whether, excepting under such circumstances, it would be justifiable. At the present time certainly the great majority of cases of fracture of the patella must be treated by gentlemen who, in the nature of things, cannot consider themselves masters of the practice of antisepsis. I know there are many of our most prominent surgeons here in this country at the present time who experience a considerable degree of hesitancy in advocating the principle of wiring a fractured patella, except where very grievous disability has resulted from ordinary treatment. That of course means that they do not endorse the principle of wiring the patella in recent cases.

In any statistics which we attempt to compile, the value of the statistics must depend upon the operators themselves rather than the number of cases. Cases that are reported from a clinic in which there is a perfect mastery of the technical details required will give us results far different from those which would be reported from the great mass of practitioners under ordinary circumstances ; so that the value to us of the cases taken in the table in the paper of the evening must depend very much upon where they come from. The experience of only one or two successful cases, it seems to me, is of very little value to us ; but if there is any one man who has operated upon fifteen or twenty cases in succession and has published his statistics, these would be valuable.

In this table there are only a few cases from any one man, and it is so apt to be the case that if two or three cases have been successful and gratifying they are published ; but it seems to me we want a succession of cases done by one man, under proper conditions, in order to give us something satisfactory.

In coming to a conclusion as to the proper practice in cases of fracture of the patella, I think that an important place should be assigned to the demonstration that has been given or the claim that has been made by Dr. MacEwen as to the filling in between the fragments or the overstretched aponeurotic structures covering the patella, thus preventing union. Now, if that is a general thing, if it is accepted by the profession as the condition generally presented in an ordinary fracture, it seems to me that we must settle at once what it is proper for us to do. It must be a proper thing to expose the parts and to remove from between the fragments this structure which has separated them and prevented their union. It does not necessarily, however, make it a proper practice to insert wires to keep them together. Is it not possible that the necessary coaptation of the parts, after the intervening fibrous tissues have been removed, may be accomplished by other and less objectionable means? If it is true, as Dr.

Wight has called to our attention this evening, that the traumatism which is produced upon the bone in the drilling and insertion of wires is in itself objectionable, it ought to be reduced to a minimum. The length of time required to a certain extent increases the gravity of the operation and increases the liability to some defect in our antiseptic precautions. If we could do away with this agent in any way, it would be very desirable.

I would like to suggest a method which I think might be practicable, namely, the propriety of introducing in connection with these cases a simple suture of the periosteum, passing through the periosteum alone and not involving the bone whatever, similar to the practice in cases of severed nerves where the suture is put in the sheath of the nerve and the divided nerve ends are held in their position by this suture thus applied. Is it not possible that the strong catgut, which has been mentioned and which has been used in other cases, might be useful in that way? The suggestion I would make, therefore, would be the bringing together of the bone ends, and holding them in place simply by the placing of catgut sutures through the surrounding aponeurotic structures. Then, if the proper provisions for drainage are made and the tension of the joint is prevented, there is no reason for us to expect that there will be any tendency to retraction of the bone surfaces from one another, for when the limb is extended as we would treat it, the quadriceps extensor muscle is relaxed, and the tendency to retract from that cause is not great; if there is any, it can be overcome by subcutaneous tenotomy of the rectus.

When a proper case presents itself I mean to try that method, and I will be glad if any members of the Society satisfy themselves as to its being sufficient for the purpose or answering the indications.

In regard to drainage. I have always suspected a bone drain. I never use a drain when I don't feel that I need it, and when I do need it, I want one that I can depend upon. Yesterday, in an operation upon the elbow joint that I had been performing, I had occasion to use a drain, and I determined to break my rule and to use a bone drain, and I inserted the bone drain and proceeded with the dressing of the case, and by the time I was ready to put on the absorptive pad over it, my bone drain had already collapsed and was evidently insufficient, and I had to open up the whole thing and take it out after all, and I registered a vow that I never would use a bone drain again. I am inclined to think that where bone drains have been put in they have very quickly collapsed, and have simply been insufficient, and that the case would have been just as well without any drainage. In a case of so critical a character as one involving the wiring of the patella or the exposure of the patella after a recent fracture, I should

feel I was running an unnecessary hazard in using a bone drain. I should certainly recommend in such cases that a rubber drain be used.

Theoretically, I am ready to endorse the use of the longitudinal incision, for certainly by such an incision it is quite possible in all ordinary cases to sufficiently expose the parts, and the tendency for the parts to fall together properly and perfect coaptation to take place is better in the case of a longitudinal incision than where a transverse incision is made, and the possible trouble, later, through tendency to suppuration or irritation of the cicatrix through the flexion and extension of the parts must be less.

Dr. WIGHT.—In regard to the statements of MacEwen and others, that the fibrous tissue falls between the fragments, I would like to say that while I do not deny it I think that the statement is altogether too sweeping to let it go without a challenge. My observations do not bear that out. I would state as the result of my observations that it more frequently occurs that the ends of the fragments bleed, as they are vascular, and that that blood forms a fibrous clot, and that that more frequently interferes with bony union. Without denying the other statement, that is my observation.

Dr. ROCKWELL.—In regard to the claim made, that the prepatellar fascia is usually entangled in the fragments, as I stated in the paper, it is substantiated not only by MacEwen's descriptions, but those of other observers. I have taken pains to look up the facts in every recorded case, and it will be found* in the table that the condition described was present in a very large proportion of the cases. It is fair to assume that it occurred in other cases, because the operators spoke of the difficulty with which they cleared away the fibrous tissues and structures at the edges of the fragments. The investigations of Professor Rushmore would go to substantiate the claim of MacEwen, for he found in the patellæ of two patients whom he dissected shortly after injury the prepatellar tissue running down and dipping over the edges of the fragments. Dr. Fowler tells me that in six or eight operations, most of them later than fourteen days after the injury, but within a month, he has invariably found this condition present.

As to the material best suited for suture, kangaroo tendon has been used, also annealed iron wire, and catgut has been used several times, all with good results. In Dr. Fowler's last case, he wired the patella with annealed piano wire, and had a satisfactory result.

Traumatism is another objection raised. I doubt if the drilling produces traumatism. It is accomplished with very little trouble if the lower fragment is taken first, as suggested by Hilton. The lower fragment is drilled first from below upwards, and then the drill is pushed through it until it strikes the upper fragment, the edges of the

bone being it apposition. The drill is also worked from below upwards, and with very little handling of the parts, as the fragments are held gently in a lion-jawed forceps. When properly done, the operation is rapid, easy of performance, and should inflict very little injury on surrounding structures.

The use of Malgaigne's hooks has been discussed. Treves of London has written a paper expressing the opinion that this is the best treatment. He applies them under antiseptic precautions, the hooks themselves being disinfected and likewise the skin where they are to enter. Iodoform is dusted over the punctures made by their points and plaster paris splints applied, the surface being dressed antiseptically. He claims excellent results from this treatment. The time necessary for union of the fragments varies from six to ten days and firm union has already been found at that time. This fact would lead up to Dr. Pilcher's suggestion which I should consider a very practical one. In fact Dr. Van der Meulen has secured the approximation of the fragments without wiring directly through the bone. He opens down upon the patella and wires the fragments outside of the bone with a single wire; his results in all cases were good. In one of his cases a separation of the fragments occurred and the second operation was done with success with a stronger wire. I think Dr. Pilcher's plan would give us the maximum success with the minimum injury to the joint, and it would be practicable after clearing and disinfecting the fragments to bring them together with a fine cat-gut suture of the capsule. If union can be secured in this way the chromacized gut could be used and the result would probably be as good as wiring through the fragments. I should try the operation if I had an opportunity to do so.

Of course, I am very well aware of the truth of the remark which Dr. Pilcher makes, that statistics gathered from sources of all kinds have very little weight, and yet I think they ought to have a certain amount of influence, as they are the only means we have of making up our minds on a subject of this kind.

Finally I believe, as I have before said, that so long as this form of fracture is treated by the ordinary methods employed, just so long will the present unsatisfactory results continue to obtain, and I believe it to be the duty of the surgeon in any given case to at least give his patient the benefit of deciding for himself whether he will have wiring done or not, and in event of his selecting the operation, to do it at the earliest proper time, if capable of performing a thoroughly aseptic operation, since I believe that by so doing he will obtain the best results in the largest number of cases.

W. M. THALLON,

Secretary.

DOUBLE GUN-SHOT WOUND OF THE BRAIN. DIRECT AND COUNTER-TREPHINING, WITH SYSTEMATIC SEARCH IN BRAIN SUBSTANCE WITH LONG STEEL NEEDLE FOR MISSILES. RECOVERY WITHOUT SYMPTOMS.

BY GEORGE R. FOWLER, M. D.

Surgeon to St. Mary's Hospital and to the Methodist Episcopal Hospital.

Patient presented, with remarks, before the Brooklyn Surgical Society, Feb. 2, 1888.

This man, aet. 30, entered St. Mary's Hospital on the 13th of May, with a gun-shot wound of the head. The pistol was fired at short range, the muzzle almost touching his forehead. The first bullet entered the frontal bone a little to the left of the median line; the second entered at the inner canthus of the right eye, tearing away the lower and posterior portion of the frontal sinus of that side. He was unconscious when he came into the hospital. After making a crucial incision and laying bare the bone, it was found that a compound fracture of the frontal bone had been sustained, the bullet having passed directly downward, perforating the dura and being lost in the cerebrum. The bullet was from a 32 calibre revolver and the opening in the dura was about the size of my little finger. Some portion of the frontal bone which was driven into the brain was removed with the forceps and was found to be stained with the lead of the bullet.

It was difficult to trace the course of the second bullet, but the posterior wall of the right frontal sinus was entirely destroyed and portions of that were also taken out from the cerebrum; a portion of brain matter escaped—the portion of the frontal lobe resting on the roof of the orbit of this side was destroyed—there was a considerable laceration of the brain at this point. After removing the debris I tried to locate the balls by drawing an imaginary line across as nearly as possible in a line with the pistol and trephining posteriorly at a point where that line would meet. After trephining the occipital bone a slender needle was passed into the brain substance, making the needle pass systematically in lines radiating from this latter opening as a central point to all portions of the brain, as nearly as could be reached, but no trace of the bullet could be discovered, the openings were then closed.

In front, after removing the debris, about a dozen strands of catgut were passed into the wound coming through the frontal bone or rather through the tissues covering the frontal bone, and half a dozen strands of catgut were also passed down through what remained of the frontal sinus to afford an escape at this point. The left nasal cavity was irrigated with mercuric iodide solution, cleansed and stuffed with iodoform cotton, and antiseptic dressing applied. The patient's after history was entirely uneventful; he never even complained of a headache. He

was up and about, assisting in the wards of the hospital as a ward orderly, in three weeks, and left the hospital on the 7th of June, fully healed and in possession of all his faculties. There is a little difference between the pupils of the two sides, the left being comparatively larger than the right ; this is the only indication of any disturbance, if, indeed, this is due to the injury.

About the 5th of last September he noticed some discharge where the upper opening had been, and upon exploration we found necrosed bone, which could be discovered from both openings. The parts were reopened, a small portion of the bone was removed from the lower opening, and it was thought that that would end the trouble. But it did not, and about four weeks afterwards he again appeared with the upper opening still discharging pus. Another exploration revealed the existence of necrosed bone ; a long incision was then made connecting the two openings, from the central portion of the frontal bone down to the site of the old wound and to the inner canthus of the left eye ; a sequestrum three-eighths of an inch in length was found, after chiseling away a part of the frontal bone. There was also found lying at that point a strong fibrous partition between the fragments of bone and the cavity of the skull beyond, showing that nature had walled out, as it were, this portion of necrotic bone and left it lying there loosely. It was removed, catgut drains were placed in position and the patient made a rapid and complete recovery. He suffers from nothing except perhaps a little mental depression which may or may not be the result of the original injury. Dr. Arthur Mathewson examined him and stated that the difference in the pupils was probably a congenital defect and had nothing to do with the injury. Both bullets are still somewhere in the brain. I have made no attempt to locate them with the Induction Balance of Prof. Hughes (the credit for discovery which is commonly given to Prof. Bell). This case is an example of the toleration of the brain tissue to the inflection of considerable traumatism, and to the presence of foreign bodies.

DISCUSSION.

DR. WIGHT.—I would like to put by the side of Dr. Fowler's case two cases that I saw some years ago, which occur to me now.

In 1864 I was on board the Hospital Transport "Western Metropolis." I was in my ward attending to my business, and hearing a commotion I went up to the cabin and found the surgeon in charge of the hospital, with several other surgeons about and a man sitting in a chair with a hole right in the middle of his forehead about an inch and a half above his eyebrows. The surgeon in charge had an excellent probe and was trying to get it into the hole. As I came up he handed the probe to me ; I saw there was no hole in the skull, and

learned that it was a pistol bullet which had been fired at a distance of not more than ten or a dozen feet. I handed the probe back to the surgeon and put my finger upon the back of the man's head and I felt the bullet there. I simply made a little incision at that point and the bullet dropped out.

Another case. Some twelve years ago I saw a boy in Brooklyn, a boy some eleven or twelve years of age and inclined to hydrocephalus, who on the 4th of July while playing with another boy, with a ten or twelve inch cannon had a stone as large as the size of an almond shot into his head. It entered the skull just immediately above the groove for the right lateral sinus. I saw him on the 5th of July and after exploring it carefully, I trephined it but could not find the stone. He lived some eight or ten years and then finally died of tuberculosis of the lung; he made good progress in his studies and was a bright, active business lad; whatever became of the stone I cannot tell.

DR. FOWLER.—The case which the doctor has last cited I remember came under my care several years after the accident and the patient suffered with epileptiform convulsions.

There was in my service about two years ago at St. Mary's Hospital, a man with a gun-shot wound of the forehead. In this case there was a perforation of the skull and yet there was no bullet there in the brain; the bullet had glanced upward and had broken in a portion of the frontal bone, and the bullet in its further course, after breaking the bone, was split in two upon the edge of the opening which it had made, and one-half of the ball was found on the top of the head under the scalp and the other half was found sticking to a portion of bone lying upon the dura.

The principal interest to me in this connection is the remarkable recoveries which ensue in some of these cases. I believe all those cases of extraordinary injury to the head where the patients have not died from immediate effects—that the good results have been due to drainage. I attribute this man's recovery to the use of the cat-gut drains for the ready escape of the accumulating fluids.

DR. WIGHT.—A boy some eight years of age, who was standing under a building, had a piece of board fall on his head, producing a compound fracture of the skull near the frontal bone. I went with the family physician to trephine him, and we had to pick him out from among the children who were playing in the street. I took off nearly two square inches of bone, some of the pieces being taken from the brain, and wiped off several ounces of brain matter, and dressed him; a few days afterwards he went out to his play again and he had no further trouble.

W. M. THALLON,
Secretary.

THE BROOKLYN MEDICAL JOURNAL.

EDITORIAL.

CHAUNCEY LEEDS MITCHELL, M. D.

Another name is added to the long roll of Brooklyn physicians, who have completed lives of usefulness and have been called to their reward. It will doubtless be many a year before we shall be again called upon to chronicle so many deaths in the profession as have occurred in almost unbroken succession within a comparatively short period. During the past eighteen months five of the leading physicians of Brooklyn have died; we refer to Drs. Dudley, McClellan, Hutchison, Chapman and Mitchell. Never before in an equal time has the local profession received such a blow.

Of those who have occupied a prominent place among the physicians of Brooklyn, none has ever been more honored and respected than Dr. Mitchell, and of none will the memories be more pleasant, or freer from animosities. We doubt if Dr. Mitchell ever made an enemy either in or out of the profession. His counsels were always wise and carried with them conviction. Upon him many institutions leaned in hours of darkness and adversity, and by reason of the support which he gave, were enabled to emerge from their struggles, stronger and better equipped than before. So long as there remains a record of self-sacrificing and disinterested labor, so long will the memory of Dr. Mitchell remain fresh and green.

We are indebted to the Brooklyn *Eagle* of May 8, for the following account of his life.

“Dr. Chauncey L. Mitchell died at his home, 129 Montague street, soon after last midnight, of an affection of the kidneys and the vessels of the brain. His health began to fail six years ago, and he withdrew from the active practice of his profession. Strong vitality enabled him to contend with disease longer than could have been expected, but a week ago last Thursday signs of the approaching end appeared. Surrounded by loving friends and ministered to with the unremitting and tender care he had so often given to others, between 12 and 1 o'clock this morning he departed so peacefully that the point between sleep and death could scarcely be marked.

“Among the many physicians who have given celebrity to Brooklyn, while earning large success and honor for themselves in the practice of a noble and useful profession, Dr. Mitchell filled for more than two

score years a place in the front rank. He was widely and beneficently known to two generations. His active life in the city connected its municipal beginnings with its later development as one of the two factors of a great metropolitan growth. Such a man exerts, by quiet and unostentatious means, a profounder and further reaching influence upon the character and cultivation and achievement of the society in which he dwells than can be indicated by any merely public record. Dr. Mitchell, though his parents resided in White Plains, N. Y., was born in New Canaan, in the State of Connecticut, on the 20th November, 1813. His family, of the old Puritan stock, may be traced back two centuries and a half in this country. The founder of the American branch came from Halifax, in England, to Boston on the 17th of August, 1635. His father, Minott Mitchell, was a man of strong intellectuality and force of character, a lawyer of ability and learning, who was for a long time an acknowledged leader of the Westchester bar and familiar also to the courts of New York City. On the maternal side he was connected with the Silliman family, which needs only to be named to recall a numerous company of successful laborers in letters, science and other worthy fields of effort. His mother was Eliza Leeds Silliman. From both parents he acquired not only large natural capacity and an alert mentality, but also patient persistence and fidelity to an aim—that talent upon which the practical worth of other talents depends, the talent for application, which if it has not the quality of genius, as is sometimes contended, serves often and well in its stead. This power of sustained and steadfast devotion to the purpose at hand characterized Dr. Mitchell's whole career. It enabled him to read at 3 years of age and to study Latin at 7. Although this was an unusually early attainment, it was by no means the feat of a prodigy, for his advance afterward, in youth and maturity, was both solid and rapid. The preparatory studies for the college course which had been fixed upon almost in the hour of his birth were pursued at an academy in New Canaan, Conn., and in other schools until his 14th year. After that he studied law with his father for four years. Revising his general studies under a private tutor he was so well forward that at 18, in 1831, he was admitted to the junior class of Union College. Throughout his scholastic years his facility of acquisition and unfailing industry were productive of liberal results. He was at the front in every department and upon his graduation in 1833 was chosen as the orator of his class. His father's wish that he should enter a profession conformed to his own desire, and though the former might have inclined to look upon him as his successor the liberty of selection was conceded to the son, who determined upon medicine. The decision was a wise one, because, while his habit of mind and thoroughness of method

would have guaranteed a fruitful use of whatever opportunity, it soon became evident that he was especially adapted to what he had resolved to make his life work. The carefulness and completeness of his education were thus renewed in his peculiar training for his calling. He was matriculated at the College of Physicians and Surgeons of the City of New York. That wise counselor and sound guide in the pursuit of medical knowledge, Professor Joseph M. Smith, found a rare reward for his efforts in the quick apprehension and constant application of his earnest pupil. This period when, with unflagging enthusiasm, backed by a strong constitution and vigorous health, every available hour found him busy, might have been called the most industrious part of Dr. Mitchell's life if that adjective did not exactly describe the whole of it. If in these days a term of study in Europe is regarded as an advantageous rounding of medical instruction, it was justly held to be even more valuable—from a higher point of view well nigh indispensable—in the young manhood of Dr. Mitchell. Now, home privileges in this respect are greatly increased. He received his degree from the New York College in 1836. He continued his studies practically in the city for a year, acting as resident physician in the New York Hospital. He went abroad in 1837, passing two years in the institutions of England and the Continent, chiefly of Paris. Returning in 1839 he began practice in the City of New York. In addition to his private business he aided Dr. Cammann in the Department of Diseases of the Heart and Lungs in the Northern Dispensary, in Fourth street. A little later he accepted the chair of Professor of Obstetrics in the Medical College at Castleton, in the State of Vermont—a position which he occupied to the satisfaction and benefit of those connected with the institution as well as to his own educational profit until 1843. He had been married meanwhile and, on account of his wife's health, removed from New York to Brooklyn. Although he severed with reluctance associations on the other side of the river and surrendered what seemed to be uncommonly promising prospects, the change apparently involved no detriment, and Dr. Mitchell rose as easily and rapidly in this city. While advancing himself he was earnest in the furtherance of all instrumentalities for the advancement of his profession also. He was an active member of the Kings County Medical Society and thrice its president. He was also a member of the New York Academy of Medicine, the Physicians' Mutual Aid Association, and the Society for the Relief of the Widows and Orphans of Medical Men. He was in the first Board of Visiting Physicians of the Brooklyn City Hospital. He helped to establish the Brooklyn Dispensary. He was a founder of the Long Island College Hospital, and was continually one of its counsellors and regents. When this now thriving institution—everywhere recognized as one of

the foremost medical and surgical schools—was struggling for a foothold, and when the plans of those who formed it seemed to be in danger of failure, Dr. Mitchell was one of a very few who, with indomitable spirit and energy and full confidence in its future, put it upon a sure basis. In other societies related to his profession Dr. Mitchell's name was honorably enrolled. He was a member for Kings County of the State Medical Society and of the American Medical Association, formed by a national convention which he attended as a delegate, and of the American Academy of Medicine. Although his profession claimed his first consideration, he was not indifferent to other interests. His concern in various social, charitable and scientific enterprises was shown sympathetically and in more practical ways. Modestly but liberally he contributed to them, both of his time and his purse. He was a member from the beginning of the Long Island Historical Society, and for many years one of its trustees. He united in 1843 in organizing the Church of the Pilgrims, and his death leaves but ten of its foundation members surviving. While Dr. Mitchell never held political office, and abstained from partisan participation in party matters, he was familiar with public policies and measures, holding positive opinions which he expressed with clearness and emphasis upon occasion, and to which he never failed to give effect, so far as possible, by an intelligent and independent vote. But he was above all things the physician, never wasting—as sometimes happens—in irrelevant and ineffectual activities the abilities and the devotion which he had seriously pledged to his chosen calling. Professionally he was careful and solid, standing by the lessons of time and experience, but far from bigoted, and always hospitable to whatever of new teaching proved substantial and worthy. Among his patients he illustrated the happy mean between reserve and effusiveness. By reasonably taking his clients into his own confidence he secured theirs, so that they came easily to regard him as a friend no less than an advisor. If the tendency of the practice of the healing art is to harden the sensibilities of its professors, the effect was missed in the case of Dr. Mitchell. His kindness and sympathy were as noteworthy as his prudence and skill. Outside of his profession his presence and impression were those of a refined and generous gentleman. He was thrice married—to Caroline L., daughter of B. F. Langdon, of Castleton, Vt., in 1843; to Frances E., daughter of Benjamin Wright, of Rome, N. Y., in 1857, and to Kate M., daughter of Joshua M. Van Cott, of this city, in 1875. The latter survives him, as does his son, Charles L. Mitchell, of Methuen, Mass. His daughter, Lillie Mitchell, the wife of Dr. John D. Rushmore, died some years ago."

THE PHYSICIAN AS A PUBLIC MAN.

The passing away of a man distinguished as physician and citizen, is full of suggestion to those who are left behind to uphold the honor of the profession he adorned. The complaint is on many a lip that men are abstaining from their share of the responsibility in public duties. There is not always a clear sense of discrimination between political and public life. The pursuit of politics, as a profession, is not compatible with the diligent performance of other duty, and participation in practical politics is not possible for all men. Neither is public life bounded by the presence of large assemblies or prominent connection with great public enterprises. This country has stretched its civilization and built up its massive structure out of the thought and labor of the common people. The common people means all the people. They who have conceived and directed are one with those who have wrought. With the increase of population are coming, faster and faster, the separating classes of those who teach and those who are to be led. The educated man must be the leader wherever he is; the illiterate are always children and seek a leader. In this country the opportunities for public duty are everywhere, from centre to outskirts, and always have there been men from every station to take their part in shaping the civilization. Apart from the pressure of life's necessities, men are everywhere adding to their occupation by confessing their responsibility in the promotion of schemes that look to the comfort and betterment of life for the less favored. There is, through the length and breadth of the land, an enormous activity of vigorous life, alert and earnest, though unobtrusive, swaying sentiment and adding to the common fund of improved measures of public weal.

It would be difficult, in this common effort, to compare rightly one man's influence with another's, and it would be unwise to contrast the influence of various institutions, systems or measures. But the persuasive power of the medical profession to influence opinion and mould sentiment is not open to question. It does, however, deserve to be understood. The medical man, educated, sincere and high-minded, who, for two score years working within a limited circle, concentrating the best that is in him on a definite purpose, coming into exceptional personal contact with home intimacies, with an opportunity for impressing his own personality, open to no other calling in life, is a public man, in public life, doing a public service, that cannot be matched for influence on public opinion by any other man in any other vocation, and cannot be over-rated. Let any medical man feel that, while this is his possibility, he is one of a vast profession, with

common opportunity and common responsibility, and the dignity of his calling in life rises to a plane than which none is higher in the world's activities. The physician is forever in public life, never out of the public eye, and can never be free from the obligations that attach to his opportunities for influence. To have spent such a life well, to have made the years fruitful, not alone in soothing the struggle of the physical life with adverse fortune, but to have taught quietly the lessons of a pure life and an unselfish labor for others, and to have lifted men out of barren thought to exalted aspirations, is a glory for any man. And this crown is within the grasp of any physician. The retrospect of such a life, after its activities are over, cannot fail to be consoling. The profession of medicine may well be proud to hold such lives in fragrant memory.

EDWARD SWIFT DUNSTER, M.D.

Dr. Edward Swift Dunster, Professor of Obstetrics and Diseases of Women and Children in the University of Michigan, died of pneumonia at Ann Arbor, Mich., May 3d, at the age of fifty-four. Dr. Dunster was born in Maine, and was educated at Harvard. He was graduated in medicine in the City of New York.

During the war he was connected with the Army of the Potomac, and at its close he began practice in New York and was one of the editors of the *New York Medical Journal* for several years, and its sole editor from 1869 to 1871. At this time he resided on Randall's Island, having been appointed Medical Superintendent of the Infants' Hospital and Nursery. He was at various times Professor in Dartmouth College, the University of Vermont, and the Long Island College Hospital. He was appointed in 1873 to the chair which he occupied at the time of his death in the University of Michigan.

Dr. Dunster was an able lecturer, never failing to interest his class in the subject under discussion. He was clear and forcible, both in his utterances and in his writings. Those who were intimately associated with him can testify to his never-failing sense of honor and justice, and to his worth of character. He had a high standard of the duty of a physician, and was most punctilious in the observance of every point of medical ethics; not because he felt bound by any artificial code, but from his innate appreciation of the dignity of the profession. In his personal relations with those who were associated with him he was always kindly and considerate, and we doubt if under any provocation he ever forgot his gentlemanly instincts. His loss will be keenly felt in the profession, and his place in the University of Michigan will with difficulty be filled.

DISEASE IN THE HOMES OF THE RICH.

The deaths that occur in the families of the rich gain a publicity not incident to deaths in the families of the poor. The newspapers record prominently the former, and omit mention of the latter. Public attention is arrested, and, more than this, the public sense is disturbed out of proportion to the true bearings of the facts. There is a tacit assumption that wealth provides sanitary safeguards which poverty, through its ignorance or incapacity, does not provide. The inference is that when contagious disease proves fatal in the homes of wealth, such disease must be both especially malignant and widely prevalent. The records of the Board of Health do not justify either belief, and these records must be accurate in the matter of deaths.

Wealth does not imply intelligence in the proper conduct of living and in the details of bodily and household sanitation. Wealth may contract with an expensive and ornamental plumber and pay his bills; but, when the plumber has packed up his bag of tools, the well appointed house may contravene all dues to good health in under, or over, clothing, irregular and improper feeding, too great, too little or too varying warmth, irregular sleep, the nervous tension of hysterical affection and the heredity of unsound parentage. These conditions of unhealthy living are to be put alongside of the unhealthy surroundings of poverty and of a packed population. Of course, it is a pity that people who can afford to pay for things, cannot have what they want; but these people are the more culpable and the less to be sympathized with of the two. They can employ doctors, but the medical man is really more pitiful for the mischances of poverty than for the flabby helplessness of the rich. The actual intelligence of the community resides between these two extremes. The moral as well as the physical strength of the people is in this middle class, and here is the sanitary common-sense likewise. The newspapers are dependent on sensational statement, and they care for little save that each issue shall have fresh news. The prominence given to certain cases of death in bold head lines and detailed statement, has a disturbing influence on the public mind, out of proportion to the true statement of the average mortality. The opportunities of the average medical man give him information which he will hold a duty to disseminate for the public quiet.

BROOKLYN PHYSICIANS AND THE WAR OF THE REBELLION.

So far as we know, no attempt has ever been made to record the part taken by the physicians of Brooklyn in the War of the Rebellion. This task we will attempt to perform. That the record may be as

accurate and complete as possible, physicians who participated in any way in the Civil War are requested to send to the JOURNAL a concise account of the date of their entry into the service, the positions held by them, the engagements in which they took part, and the date of their discharge from the service; in short, all the facts which are necessary to make such a record valuable as history, and worthy of the profession which they represented.

THE VALUE OF THE AMERICAN MEDICAL DIPLOMA IN ENGLAND.

In this number of the JOURNAL, under the heading "Correspondence," will be found a most interesting letter from Dr. Henry Conkling, our London correspondent. The desire has been frequently expressed that the United States Government would take the steps necessary to have American diplomas "recognized" abroad, and the claim has been made that this privilege has already been granted, so far as England was concerned, to some few American colleges. It would appear from the following extract from the *N. Y. Medical Record* that an effort is now being made in London by an American physician to have some action taken looking toward a general plan to accomplish such "recognition" for the graduates of all medical colleges in the United States. The extract to which we refer is entitled, Reciprocity in Medical Practice, and states that in the House of Parliament, on April 9, 1888, this subject was under discussion.

RECIPROCITY IN MEDICAL PRACTICE.—In the House of Parliament, on April 9, 1888, the following discussion occurred:

"Mr. Arnold Morley asked whether registered medical practitioners in the United Kingdom were afforded privileges of practising in the United States of America, and whether any steps have been taken or were in contemplation by the Privy Council, under section 17 of 'The Medical Act, 1886,' in the direction of similar privileges being given to legally qualified American practitioners who might be desirous of practising medicine in the United Kingdom.

"Sir W. Hart-Dyke replied that no statement had been received from the Government of the United States showing the privileges afforded in America to registered medical practitioners of the United Kingdom, nor did he find that any request had been made by the United States Government for the extension of privileges to American medical men in this country."

Dr. William B. Meany, of Chicago, who is at present in London,

has written to an official representative of the United States in reference to the above point, as follows :

"I beg, sir, to state that registered medical practitioners of the United Kingdom are afforded all rights and privileges of practising medicine in the United States, on equal footing with graduates of medical schools in the United States of America.

"The same courtesy is shown members of the learned profession holding certificates of their qualifications from the United Kingdom, that is shown to residents of Sister States of America, under the same circumstances.

"We beg, sir, most respectfully to ask your aid and consideration for the purpose of having granted to legally qualified practitioners of medicine in the United States, the same privileges for those who may desire to practise medicine in the United Kingdom."

If we understand the facts aright, there is no necessity for any further action on the part of the British Government. The recent Acts of Parliament which are now in force make it possible for any physician of the United States to practise in England under very simple conditions. It also appears that all of the medical colleges of this country are on the same footing, that none is "recognized" to the exclusion of others. Those who are interested in this subject will find these conditions very clearly and concisely described by Dr. Conkling in his letter to the JOURNAL.



CONTAGIOUS DISEASE AND THE HEALTH DEPARTMENT.

The public mind is on a tension as to the horrors of diphtheria and scarlet fever. That they are, occasionally, rapidly fatal, all know : but the proper emphasis on *occasionally* is not recognized. The fatal cases of either are a very small percentage of the total number that occur. There are in the air rumors enough to justify the belief that the reports from physicians to the Board of Health are very incomplete ; so the records of the Health office do not tell the whole truth on this question. But every physician knows that the fatal cases of diphtheria and scarlet fever that he meets are a very small minority of the total number that he treats, and that recover under his care.

The restrictions of the Health Board are burdensome to the public, for they are stringent to the limits of oppression on the one hand, and lax to absurdity on another. A case of scarlet fever occurs in a house. The children, few or many, may not go to day-school for six weeks,

and the house must be fumigated. But these same children may go to Sunday school, may visit any and everywhere, may receive company, and if a death occurs a wake may be held and no restriction on the number of mourners. The permission of the local inspector is requisite for the return of the children to the public school, and this is based usually on the statutory limits of the quarantine. These quarantine regulations are not based on any certain knowledge of the limits of contagion ; but they are cast iron around variable conditions, and are often very oppressive. The medical man in attendance should be permitted to act as mediator between the household and the Health Board. All medical men are not equally judicious and intelligent ; but there is an average medical sense which could protect the community, and save the household from oppression. There are numerous cases of diphtheria and scarlet fever that come into families where only one member has either in mild form, and there is speedy communication with the remainder of the family and no subsequent cases occur. Variety in type, and general healthfulness of surrounding, are factors that should have weight, and the public mind would be less disturbed if the family physician could intervene to raise the quarantine and to exempt from quarantine if the facts could be shown to justify this action. It is right enough to quote that the welfare of the community oftentimes requires the sacrifice of the individual, but the individual should not be made to suffer if the welfare of the community does not really require such sacrifice.

THE ABUSE OF ANTIPYRIN.

That antipyrin is being very generally used without the advice of a physician appears from the evidence which has been obtained from both physicians and druggists. We are informed that it is not an uncommon thing for those who suffer from headaches to purchase the drug and take it in twenty-grain doses, entirely unconscious that they run any risk in so doing. Evidence is accumulating that antipyrin so used is fraught with danger, and there are already enough cases recorded of the production of alarming symptoms by small doses to put even physicians on their guard against the indiscriminate use of the drug.

PROCEEDINGS OF SOCIETIES.

THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

A regular monthly meeting of the Medical Society of the County of Kings was held in their rooms, 356 Bridge Street, on Tuesday evening May 15th, 1888, at 8 o'clock.

Dr. Wallace in the chair.

There were about fifty members present.

The minutes of the last meeting were read and approved.

The Council reported favorably upon the names of the following gentlemen :

Drs. Charles S. Fischer, James L. Carney, Eliot Gorton, Heber N. Hoople, Henry H. Morton, George B. Rockwell, and recommend them for election to membership.

The following gentlemen were declared elected to membership : Drs. Benj. Burroughs, Frank Baldwin, G. N. Ferris, C. C. Holton, C. H. Shepard, H. A. Tucker, Jr., H. P. Dawes.

The following gentlemen were proposed for membership :

George H. Treadwell, 806 Marcy Avenue, P. and S., 1885, proposed by Dr. W. B. Chase, seconded by Dr. James W. Ingalls; Frank H. Clark, 627 Marcy Avenue, Long Island College Hospital, 1887, proposed by W. B. Chase, seconded by Dr. William Wallace; Charles E. Perkins, Gouverneur Hospital, New York City, P. and S., 1888, proposed by W. B. Chase, seconded by Dr. Geo. R. Fowler; F. L. Goddard, Eastern District Hospital, Long Island College Hospital, 1887, proposed by Dr. C. N. D. Jones, seconded by Dr. C. A. Canfield; Thos. L. Wells, 883 St. Mark's Avenue, Bellevue Hospital Medical College, 1883, proposed by Charles E. De La Vergne, seconded by Dr. John A. Arnold; Dr. S. A. Fox, 22 Cambridge Place, proposed by Dr. George R. Fowler, seconded by Dr. W. B. Chase.

SCIENTIFIC BUSINESS.

The first paper of the evening entitled, "Ophthalmia Neonatorum," by T. A. Joye, M.D., was then read. This paper was discussed by Drs. Prout, Jewett, Lennox, Van Cott, Buckmaster, Emory.

The second paper of the evening entitled, "Report of a case of Pelvic Abscess," by Henry N. Read, M.D., was then read.

On motion of Dr. Prout, the Chairman was requested to appoint a committee to draft resolutions relative to the death of the late Dr. Mitchell.

On motion, adjourned.

W. M. HUTCHINSON,
Secretary.

PROGRESS IN MEDICINE.

DISEASES OF THE SKIN.

BY SAMUEL SHERWELL, M.D.,

Clinical Professor Dermatology, Long Island College Hospital; Attending Physician Brooklyn Hospital; Surgeon to Skin and Throat Department, Brooklyn Eye and Ear Hospital.

T. Colcott Fox, London (Lancet, April 7, 1888,) has an article on "Comedones" in very young children; speaks of thirty-eight cases occurring in his own and others' practice, in which he noted age; twenty-five of them were between five and nine years—twenty-eight males, ten females.

It appears, he says, most frequent in spring months, and in the rheumatic, ill-nourished and scrofulous. He looks upon it as essentially different from the comedo of puberty, and thinks it a condition of hardening (or parakeratosis of epithelium at orifices of ducts) "see below." The treatment given is essentially same as for other forms.

Unna, Hamburg (Monatsheft f. pract. Dermatolog., No. 1, 1888, p. 54), divides acne, as generally considered, into two groups. First, comedo, a keratosis of the epithelial layer of the lanugo follicle, the epithelium becoming adherent to the lanugo hair itself, thus causing obstruction. Second, vulgar or pustular acne, caused by presence of a micrococcus.

He gives treatment sufficiently heroic in both cases, and such as is generally found in German authorities. Among other things the following pastes he recommends highly:

FOR NIGHT USE.

℞	Ungt. zinci benzoat.....	86
	Sulphur. præcip.....	10
	Terræ siliciæ.....	4

NIGHT.

℞	Ungt. zinci benzoat	80
	Resorcin.....	10
	Terræ siliciæ.. ..	10

FOR DAY USE.

℞	Resorcin.....	2-5
	Glycerin	1
	Spts. dest.....	80
	Aq. flor. aurant.....	20

DAY.

℞	Hydrarg. bichloridi.....	0.5-0.2
	Glycerin.....	1
	Spts. dest.....	80
	Aq. flor. aurant.....	20

He prefers the last two.

Fournier, Paris, (Gazette des Hôpitaux, January 5th, 10th, 1888). In a very instructive clinical lecture, this author gives the etiology

of acne a very good study, agreeing in the main with the more modern authors; but maintains (as we believe with correctness) that while it is often present in subjects who have digestive troubles, etc., that those are just as likely to be concomital, and not causative.

Among other remarks, he says, undoubtedly there is a real but obscure causative relation, from disorders of function, etc., of the genital organs and sexual system, though he cannot formulate it.

He ascribes no influence to the use of cosmetics, and the like.

His treatment is devoted, as he says, first, to general causes; second, to permanent causes. By the first he means attention to hygienic measures, relieving indigestion, constipation, uterine disorders, etc., and use of appropriate tonic remedies; in the second place, topical measures, either (first) mildly stimulant, or (second) substitutive in action, i. e., those that will cause a greater irritation than the original lesion. For this last indication he shows particular preference for *sapo viridis* followed by application of a mask covered with *Emplast. Vigo*, to be left on for days in obstinate cases.

Polotebnov, St. Petersburg (*Monatsheft f. pract. Derm.*, Nos. 5-6 -1888, "Treatment of Erysipelas.") This author gives a resumé of the treatment of sixty individuals, one-half of the number treated by applications of *argent. nit.* 3 ss. to aq. 3 i., the other half treated by application of compresses of warm or cold water, and baths; in both constitutional or other treatment almost nil. This was done, as he says, with the object of testing "Volkmann's" method of "limitation" by applications of *argent. nitratis*.

Dr. P. gives his opinion of results under seven capitulations, in brief, the following:

1st. *Argent. nit.* is in no manner an abortive measure.

2d. The temperature under both modes of treatment took the same course.

3d. There was probably no difference in affections of peripheral nervous system under either treatment.

4th. Exudation of sero-albuminous matter same in both.

5th. Whether accidental or not, the percentage in respect to tendency to lung complications, and those of the central nervous system, was favorable to the *argent. nit.* treatment.

6th. Mortality alike under both treatments.

7th. He is certain that the retrogression, of the inflammatory state and its products, was much more rapid when the acute stage was over, under the nitrate of silver treatment. He tested it most satisfactorily to himself.

Nussbaum, Munich (Therapeut. Monatsheft, No. 1, 1888), "On the Internal Use of Ichthyol," appears to estimate the use of ichthyol highly, if not extravagantly, both internally, and by inference and reference, externally as well; in cases of disease attended with capillary dilation or those arthritic in origin. His list of diseases in which it has been used with good effect by himself and others would make it appear like a panacea.* He gives it internally in pill form, increasing the daily dose rapidly. He himself, "experimenti causa," has taken repeatedly five grammes a day of the sulph. ichthyolate sodium without ill effects, and seemingly without any, he being in a state of health at the time, and remaining so after ingestion.

Roesen, Munich (Med. Wochenschrift, Feb. 28th, 1888), "On the Treatments of Warts, Corns, and Callosities." In a short article the Doctor maintains that salicylic acid, working so admirably as it does in the so-called fixed dressings of collodion, gutta percha solution, and the like, works even better when applied in mass, in a free state, a dampened layer of lint being superimposed, and an india rubber bandage above all, bound around so as to exclude air. His favorite time for leaving this dressing on is five days, but may be even longer, he says, without the slightest danger of injury to the finest skin. He finds on removing the impermeable bandage that the corn or wart, etc., can be removed without the slightest trouble. It does not even, he further adds, macerate the healthy skin, as a wet poultice or compress would do if allowed to remain so long; the agent seemingly concentrating its action on epithelial new formations.

Max Joseph, Berlin (Klin. Wochenschrift, Jan. 30, Feb. 6, 1888,) "On Etiology and Symptomatology of Alopecia Areata." The author defends and fortifies the position that this disease is essentially a result of a tropho-neurosis, and has not a parasitic origin, as has of late been again maintained. He quotes Hutchinson, Bärensprung and many others on this subject, and certainly gives strong additional proofs that he is correct as to etiology of this disease.

Fournier, Paris (Gazette des Hôpitaux, Feb. 23 to April 10, 1888,) "Urticaria." This author gives in his lectures, between the dates mentioned, a particularly good resumé of the above subject, the best

*[Fairly thorough experiment with this agent in this country, at least by dermatologists of New York, etc., does not appear to bear out the assertions of the Continental or German writers, nor does our quite limited experience, this last, to be sure, has been entirely by external use. The N. Y. Dermatol. Soc'y, in a general discussion some time since, came to the unanimous consensus of opinion that it was a much overrated drug.—S. S.]

feature perhaps of which is differentiation and explanations of the variety of causes to which this eruption is due.

C. W. Allen, New York (N. Y. Med. Journal, March 24th, 31st, 1888, "Leprosy in the U. S., and its Relation to the State,") calls attention in this well-written article to the increasing number of cases reported, and gives a valuable summary of the literature of the disease with particular regard to its contagiousness and means of transmission. The article was read and discussed before the New York Medical Society; but little but negative results were obtained thereby. [It is our opinion that weight of evidence proves certainly its innoculability; its power of contagion very slight, if at all; hereditary transmission undoubted, but not necessary that all children should inherit it. As to idiopathic origin, we believe that Jonathan Hutchinson's theory is not entitled to the incredulity, if not ridicule, it sometimes receives. It will be remembered that he propounded a possible explanation by the food and hygiene of the races most subject; they having for part of their food partly putrid fish and other decaying or stale foods, etc.]

Prof. Lieberman has, in course of experiments with chrysophanic acid, obtained a new combination, the principle of which he calls "antharobin." Behrends, of Berlin, has used it considerably in the same class of cases in which chrysarobin is employed, and is inclined to prefer it, as, while it is not quite so active a remedy, its disadvantages are less. It does not stain the skin or clothing to the same extent, but turns hair red when applied to those surfaces. [It would seem as yet to be an "article de luxe," pharmaceutically considered; its use as a cosmetic might be thought of, if the blonde fashion should set in at any time.]

Reynolds, Chicago (Med. Jour. and Examiner, Jan., 1888,) "Use of Galvanism in Treatment of Parasitic Disease of the Skin." The Doctor speaks favorably of this means in treatment of the tineæ. His method is briefly the following: The part affected must be cleared and cleansed from all oily secretions and detritus. Both electrodes must be covered with moistened pads, the negative pole thus prepared being placed at a point conveniently near the place to be treated; the electrode of the positive pole is to be applied to seat of eruption, being previously well moistened with solution of mercuric bichloride, grs. v to the ʒ i, and allowed to remain in contact a considerable time.

The Doctor gives five weeks as the outside limit of time needed for cure.

[It would occur to the non-esoteric reader probably that the action of the decided parasiticide employed in the solution might be capable of curing the disease itself, especially when applied with the care so thoroughly insisted on.]

Vomaka (Pragische Rundschau) recommends the addition of lactic acid to the well-known salicylic collodion for the cure of corns, warts, etc., etc. His formula is the following :

R	Acidi salicyl.,	}	-	-	-	aa 10.
	Acidi lact.,	}				
	Collodion,	-	-	-	-	80.

Grisolle's, method of making early diagnosis, as between variola and rubeola in the papular stage, is thus given. If, upon stretching the skin tense, the papule is impalpable, "Measles;" if, on the contrary, the papule is still felt under same conditions, "Small-pox."

SYPHILIS.

R. Bergh, Copenhagen (in Monatschft. f. pract. Dermat., Nos. 4-5, 1888,) "On Contagion and its Variety of Mode, in Syphilis." To those interested or occupied in the subject the Doctor's article will prove most interesting. In the foot-notes he gives us a large bibliographical index, and writes with a great deal of historical acumen and research. He is most pronounced in favor of legalization of prostitution under certain safeguards and restrictions, and gives a certain amount of data about this matter as regards his own country.

Dr. Ed. Welander, Stockholm (in Monatshft. f. pract. Derm., No. 5, p. 243,) on "Treatment of Syphilis by Subcutaneous Injection of Calomel." The author has followed out Smirnoff's method and instructions in giving four injections, each containing ten centigrammes of calomel, every third day. He thinks highly of the treatment under some circumstances and conditions, as being both simple and powerful. He prefers calomel to the yellow mercuric oxide as being less irritating. He had abscesses, however, in over twenty per cent. of his cases; in the resultant pus discharge he found mercuric globules, but never micro-organisms. Stomatitis resulted in twelve cases, but he does not give per cent. of this.

He says that Smirnoff errs in saying that the precisely exact amount of mercury in the system can be estimated, for that at least two centigrammes are always left in the Pravaz syringe at each injection, and that the discharge from abscesses contain much. He further says that he has found traces of Hg. in the urine as early as the fourth or fifth

day, and that after the fifteenth day there is no other method of giving mercury, in which such a decided quantity will be found in the urine.

Max Bender, Bonn (Wiener Vierteljahreschrift f. Derm. u. Syphilis, Part I., 1888, p. 55), "On the Subcutaneous Use of Calomel and Oleum Cinereum in Syphilis." This author recommends this treatment highly, thinks it by all odds the best in the case of the poor and hospital patients. He acknowledges a slight percentage of abscesses, tubercular indurations, stomatitis, etc., etc.

He gives Smirnoff the credit of forcing this method into its present favor, but claims priority of use and mention for Scarenzio and Sig-mund.

Dr. B. uses and recommends the following injection :

R	Calomel,	-	-	-	-	5.
	Chloride of sodium,	-	-	-	-	1.25.
	Aq. dist.,	-	-	-	-	50.

He also recommends injection deeper than into cellular tissue, as being less likely to cause abscess. He allows a longer interval between injections than Smirnoff or Welanders, from seven to ten days to a fortnight.

Neumann, Vienna, in a paper read before the Medical Society of that city, January, 1888, does not endorse to the full extent the claims of the foregoing authors, still, however, acknowledging the value of the method in certain cases. His experience goes to show that many more injections were required to cause a disappearance of the manifestations than had been stated by many writers.

Jonathan Hutchinson, London (Medical Press, February 29th, 1888, p. 211), "On Abortive Treatment of Syphilis." The Doctor's favorite method of Treatment of primary (early) Syphilis is by one-grain doses of gray powder three times a day, for a period of six to nine months. He believes he usually aborts any secondary stages thereby. Of course, in the presence of pytalism or diarrhœa, etc., he suspends or diminishes treatment for a time. He being such a competent all round man (perhaps the best in the world), that it will be well to give his definition of specific agents and abortion in his own words. He says, in answer to those who object to the word *specific*: "My definition of a specific is, that a remedy may be fairly called a specific if it always and invariably manifests a power over the phenomena of a disease; it is for the prescriber to find out how to use his specific so as to bring about absolute cure."

"By *abortion*, on the other hand, is not meant annihilation. If a

scheme of treatment of syphilis, begun in the primary stage, is planned to prevent the secondary phenomena, and usually does so, it may, I think, be fairly called abortive, in contradistinction with others which make no pretence to prevent the ordinary evolution of that malady. Abortion as regards preventing tertiary symptoms is another matter." At the end of his article he adds: "It has been well said that all men use syllogisms, while but few have studied logic; and, in like manner, I may remark that most of us have been practicing more or less the abortive treatment of syphilis without giving it that name."

Dr. E. B. Bronson, New York (N. Y. Med. Journal, March 24, 1888,) "On Preventive Treatment in Primary Syphilis." The Doctor, in a very valuable and carefully considered article, gives a *résumé* of most of the means lately considered for the ectrotic treatment of primary syphilis. At the conclusion of his paper, he proposes the use of multiple subcutaneous injections of mercuric bichloride around the primary lesion, and in the direction of and into the lymphatic glands of the region.

S. S.

REVIEWS.

THE LANGUAGE OF MEDICINE—A Manual Giving the Origin, Etymology, Pronunciation and Meaning of the Technical Terms found in Medical Literature. By F. R. Campbell, A. M., M. D.
New York. D. Appleton & Co., 1888.

The author has invented a unique book or, as his philological mind would put it, "*invenit*," he has come into a new thing in medical literature. Taking up some two thousand names in medical use, he has furnished their origin, meaning, pronunciation and inflection. The author's intention is a contribution to accuracy in medical thought and speech. He has brought together a mass of information bearing on medical philology, so far as we know never before attempted and, certainly never before, so successfully accomplished. It certainly will prove a treasure to every medical scholar and cannot fail to be of use to all who may be in sympathy with the author's desire to promote accuracy in medical thought. It is open to fair criticism, whether the large excerpts from Latin and Greek grammars will prove of much avail. Medical men who have had the advantage of a liberal education, will be able therefrom to brush-up their memory in forgotten details, but, to any who have never been trained in youth in the languages, we doubt

if such fragmentary lessons in classical construction will be of much value. It would appear as if the large amount of elegant information, which the author has brought together, would have made his volume more symmetrical if these matters had been omitted. The book itself is a plea for the culture of polite literature among medical men and can be most heartily commended to all in whom the love of letters has been cultivated.

DE L'ELECTRICITE COMME AGENT THERAPEUTIQUE EN GYNÉCOLOGIE PAR LE DOCTEUR PAUL F. MUNDÉ.—A reprint of Dr. Mundé's paper, translated for the *Gazette de Gynécologie*, by the Editor, Le Docteur P. Ménière.

Dr. Ménière commends the monograph to his French confrères, because it is the work of an independent practitioner and not of a professional electrologist.

THEINE IN THE TREATMENT OF NEURALGIA.—Being a Physiological Contribution to the Therapeutics of Pain. By Thomas J. Mays, M.D. pp. 84.

Philadelphia, P. Blakiston & Co., 50 cents.

This brochure is a republication in book form of articles on Theine which appear in the *Polyclinic*. The author's experience with the hypodermatic use of this drug in various forms of neuralgia, was so pronounced, as to justify him in giving it in more prominent form to the profession. If his experience can be duplicated by others, a revolution will occur in the treatment of the various forms of this painful disease. It staggers one's experience to read of the author's uniform success in the treatment of numerous cases of sciatica, intercostal, dorsal, cervico-brachial, occipital and rheumatic neuralgia, myalgia, lumbago, etc., etc. The author's experience is supported by the success of other medical men with the Theine. These positive statements demand further clinical effort at corroboration.

A GUIDE TO THE PRACTICAL EXAMINATION OF URINE. By James Tyson, M.D. Sixth Edition. pp. 253.

P. Blakiston, Son & Co., 1888.

The fact that this well-known work has reached its sixth edition, shows that it has met with a ready sale, and speaks well for its excellence. The subject of which it treats is exciting vastly more attention in recent years than when the first edition was given to the public. The rapid exhaustion of the last two editions has enabled the author to keep pace with recent new tests. The present edition has been revised without enlargement, and is fully up to date.

But few new tests have been introduced, and a few which were cumbersome or unreliable have been omitted. Of the former, but one seems to us worthy of recommendation as likely to be useful. The nitric magnesian test for albumin is of undoubted delicacy, and comparatively free from liability to error. The two new tests for sugar mentioned, are cumbersome, the reagents, *phenyl hydrazin*, *hydrochloride* and *alpha Naphthol*, are not always easy to obtain and therefore are not likely to come into general use. These tests are chiefly recommended for their delicacy; one of them reacting with normal urine. As it is doubtful whether minute traces of glucose in the urine have any clinical significance, we may question the necessity of so delicate a test as these are said to be.

Of the tests that have been omitted from this edition, we regret the loss of Almen's modification of the test for blood coloring matters. The use of spirits of turpentine in place of ozonic ether is certainly to be preferred, because it can always be obtained without the necessity of sending to a certain apothecary in Philadelphia for an article which the author says should be freshly prepared. As the title of the book indicates, it is intended as a guide to the examination of urine, and contains but little upon the subject of clinical significance of the results of such examination.

If we should criticise the general plan of the book, we should say as the result of personal experience with every edition, that we regret that the author did not, even at the risk of increasing its size, introduce more of clinical significance and pathological variations.

This enlargement of the scope of the work would increase its usefulness to students and young practitioners. The chapter on Differential Diagnosis of Renal Diseases might, with profit, have been extended to other diseases associated with abnormal urine. As a guide to the practical examination of the urine we heartily recommend Dr. Tyson's little book to all practitioners of medicine and students, as recent, well arranged, accurate, sufficiently full and yet sufficiently concise to serve this purpose in a most excellent manner. We know of no one of the many similar hand books that is so well adapted for the purpose.

E. H. B.

CORRESPONDENCE.

THE VALUE OF THE AMERICAN MEDICAL DEGREE IN LONDON.

There is a wide diversity between English and American medical educational methods. While the object of instruction in both countries is to give to the student, who, in course of time, becomes the graduate, a qualification which will enable him to practice the various branches of medicine and surgery, yet two striking differences in the instruction are observed in the necessary steps for obtaining, and the significance of such qualification. The American, after pursuing a certain course of medical study, can obtain but one degree. This degree of "Doctor of Medicine" gives him the right to practice his profession. It has but one interpretation. He has studied medicine, and has passed, at the conclusion of that study, certain examinations. The same degree in England has a different meaning. It is not essential for practice, as qualifications of a lower grade give that right. As both countries give the degree of "Doctor of Medicine," two questions naturally arise.

I. What is the comparative value of the degree?

II. Is there "recognition" in England of the American degree, or in America of the English degree?

It is to answer directly the first part of the second question, and indirectly the first question, that this letter has been written. An account of English medical instruction, and of the qualifications which English students obtain will contribute to a more thorough understanding of the answer to the above questions.

Let us therefore follow, for the moment, the career of an English medical student. We will suppose that he chooses one of the London schools. That school will not qualify him to practice. It will give him a certificate stating that he has been a student there, and it will be regarded by him as his medical Alma Mater. Before commencing professional study, he must pass the "Preliminary Examination in Arts" at either the College of Preceptors, the Apothecaries' Hall, or University of London, all of which are mere examining boards. Should he be a graduate of an English or a British University, or should he hold a certificate from various British or Colonial Colleges, stating that he has passed such examination, this "Preliminary" will be dispensed with. He must now decide what qualifications he intends to take, and before what examining boards he will appear. He may choose from some fifteen boards. We will however dismiss from discussion all but three: University of London, and the two Royal Colleges. For gen-

eral practice our student would take the examinations necessary to receive the diplomas of the License of the Royal College of Physicians of London, and the Membership of the Royal College of Surgeons of England. These examinations are given by the "Conjoint Examining Board in England" of the two Colleges. This union, dating only from 1884, relates to the above diplomas, and does not exist for other examinations. Our student is now a "Licentiate" of one college—"L. R. C. P."—and a "Member" of the other—"M. R. C. S." In order to obtain these diplomas, he has studied four years. Suppose he enters at a medical school in October, 1888. In April, 1889, he passes the examination in elementary anatomy and physiology. In July, 1889, he passes the examination in physics and chemistry. In April, 1890, he passes the examination in anatomy and physiology. In July, 1890, he passes the examination in materia medica and pharmacy. In July, 1892, he passes the examination in medicine, midwifery and surgery. He may now practice any or all branches of his profession. No further qualification is necessary, and many men do not take the higher examinations. The student, whose career has thus far been traced, is known to the laity as Mr. A., "a medical man."

Should he now desire to practice surgery with a higher qualification, he will endeavor to obtain a Fellowship in the Royal College of Surgeons. Two examinations are necessary for this: The "primary" examination in anatomy and physiology; the "pass" examination in medicine, midwifery, surgery, surgical anatomy and pathology, examination of patients, and operations upon the dead body. Certificates must be presented, showing that a course of operative surgery has been taken, and also that there has been an additional course of hospital study. Under certain conditions exemption from the examinations in medicine and midwifery can be obtained. This fellowship is the highest surgical qualification. If the student intends to practice medicine or midwifery, he will take the examinations for membership in the Royal College of Physicians, the highest qualification in England, making the holder eligible for election to the high and honorary position of a Fellow.

Thus far we have spoken only of diplomas and licenses. There are various medical and surgical degrees that can be obtained. The University of London confers four degrees; Bachelor of Medicine; Bachelor of Surgery; Master in Surgery; Doctor of Medicine. Those who desire the higher degrees generally take the various examinations necessary to obtain them either with or soon after their examinations at the Royal Colleges. Four examinations are requisite to obtain the degree of Bachelor of Medicine. The candidate for the degree of Doctor of Medicine must have passed his Bachelor examinations and must have

spent *five* years subsequent to that in study or practice, making *nine* from the commencement of his medical studies.

This then is the English student's career. An American graduate studying in England would gain but little in taking the University examination, but he might wish to take one of the diplomas of the Royal Colleges. In order to ascertain the relation of American medical schools to the Royal College of Physicians, and also the value of the American degree in London, an introduction was obtained from a Fellow, Dr. J. Mitchell Bruce, to Sir Henry Pitman, Registrar of the College.

The following questions were asked of Sir Henry :

I. Can American physicians, without British qualification, practice in London ?

II. Does the Royal College "recognize" any American medical school ?

III. What examinations must be passed in order to become a Licentiate ?

The answers to these questions, taken in order, are as follows :

I. The Imperial Parliament of Great Britain, by an Act passed in 1886, decided that foreigners, who in their own land were qualified practitioners, might practice in London, (England) upon registration and payment of five guineas. They would then be classed as "Foreign Medical Practitioners." They must show that when they obtained their degree they were not British subjects ; or if so, were living under foreign government.

II. The Royal College "recognizes" no American school.

(By this it will be seen that no examination passed in America is considered equivalent to an examination passed in England, and that, in a strictly official sense, no one American college possesses any advantage, but that they, one and all, are in the same class).

III. The examinations which must be taken would depend upon the candidate's acquaintance with some Fellow or Censor of the College. If some physician in high repute would personally testify as to the candidate's preliminary work, and give some information relative to his medical school, he would be given an examination, if he had received his degree previous to 1884, in medicine, midwifery and surgery. If his degree had been received subsequent to 1884, he must take in addition the anatomy and physiology examinations. If unknown and with no one to vouch for him, the candidate must take the full examination described above.

In conclusion it may be said that, with the single exception of the examination for membership in the Royal College of Physicians, the standard of scholarship in Great Britain is not in reality higher than

the standard required at the final examinations, given by the Faculties of those American Colleges which, to their theoretical teaching, have added a course of thorough and scientific practical study.

HENRY CONKLING, M. D.

London, May 1, 1888.

MISCELLANEOUS.

BROOKLYN VITAL STATISTICS FOR APRIL, 1888.

By J. S. YOUNG, M. D., Dep. Commissioner of Health.

Population, estimated on January 1st, 1888.....774,870
Inhabited houses, about..... 85,000

In the month of April, 1888, there were 1,386 deaths, the rate of mortality being 21.46 in every 1,000 of the population.

The number of births reported was.....932

The number of marriages reported was.....418

The number of still-births reported was..... 87

The mortality by classes and by certain of the more important diseases was as follows :

Causes :

I. Zymotic.....	240
II. Constitutional.....	314
III. Local.....	693
IV. Developmental.....	104
V. Violence.....	35
Measles.....	3
Croup.....	23
Diphtheria.....	85
Scarlet Fever.....	59
Typhoid Fever.....	3
Whooping Cough.....	9
Malarial Diseases.....	3
Diarrhoeal Diseases (all ages).....	15
“ “ (under 5).....	12
Phthisis.....	212
Bronchitis.....	63
Pneumonia.....	178
All Respiratory Diseases.....	267
Bright's Disease.....	40
Puerperal Diseases.....	16
Old Age.....	29
Suicide.....	5

Reported cases of Infectious Diseases :

Diphtheria.....	201
Scarlet Fever.....	356
Measles.....	65

During the month 63 cases of small-pox were reported, of which number 63 were confirmed as small-pox; 58 cases of small-pox were sent to the hospital; 2 deaths from small-pox occurred in the city and 9 in the hospital.

Deaths by *Sex, Color and Social Condition*, were as follows : Male, 750; female, 636; white, 1,348; colored, 38; native, 910; foreign, 476; married, 422; single, 762; widows and widowers and not stated, 202.

Still-births (excluded from the list of deaths) were as follows : Males, 41; females, 46. Total 87.

Deaths in Public Institutions.....	114
Deaths in Tenement houses.....	462
Inquest Cases.....	117
Homicides.....	0
Suicides.....	5

Age Periods : Deaths under 1 year, 278; under 5, 231; total deaths under 5, 519; 5 to 20, 112; 20 to 40, 253; 40 to 60, 262; 60 and upwards, 240.

Certain foreign and American cities show the following death rate for the month of April: Brooklyn, 21.46; New York, 27.07; Philadelphia, 21.62; Berlin, 19.54; Vienna, 26.79; Paris, 26.21; London, 19.88; Glasgow, 24.61; Dublin, 28.25.



PRELIMINARY PROGRAMME OF THE AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS,

At the Meeting to be held in Washington, September 18th, 19th, and 20th, 1888.

1, Clinical Observations on Diseases of the Testicle. By Dr. L. B. Bangs, of New York City, N. Y. 2, Clinical Observations on Chronic Gonorrhœa, and 3, Two Cases of Cancer of the Seminal Vesicles, with Pathological Specimens. By Dr. J. P. Bryson, of St. Louis, Mo. 4, Operative Treatment of Hypertrophy of the Prostate, and 5, Case of Bowel ending in the Urethra of a Child four weeks old; Relief by Operation. By Dr. A. T. Cabot, of Boston, Mass. 6, On the Effects of Rapid Changes of Altitude in an Advanced Case of Interstitial Ne-

phritis. By Dr. George Chismore, of San Francisco, Cal. 7, Connection between Masturbation and Stricture. By Dr. S. W. Gross, of Philadelphia, Pa. 8, Operations on the Kidney. By Dr. W. H. Hingston, of Montreal, Canada. 9, Syphiloma of the Vulva. By Dr. J. N. Hyde, of Chicago, Ill. 10, The Curability of Urethral Stricture by Electricity; an investigation, and 11, The Comparative Value of Supra-pubic and Perineal Drainage in Curable and Incurable Bladder Disease. By Dr. E. L. Keyes, of New York City, N. Y. 12, The *Filaria Sanguinis Hominis* in the United States, especially in its Relationship to Chylocele of the Tunica Vaginalis Testis. By Dr. W. M. Mastin, of Mobile, Ala. 13, A Case of Perineal Section for Traumatic Retention; Unusual Condition of the Bladder. By Dr. J. E. Michael, of Baltimore, Md. 14, The Prophylaxis of Syphilis. By Dr. P. A. Morrow, of New York City, N. Y. 15, Unusual Case of Urethral Calculus. By Dr. H. G. Mudd, of St. Louis, Mo. 16, On the Radical Cure of Stricture by Dilating Urethrotomy, and 17, Demonstration of a Perfected Evacuator, and an Improvement in the Method of Removal of Debris from the Bladder. By Dr. F. N. Otis, of New York City, N. Y. 18, Pyæmia as a Direct Sequel of Gonorrhœa. By Dr. R. Park, of Buffalo, N. Y. 19, Retrojections in Gonorrhœa. By Dr. E. R. Palmer, of Louisville, Ky. 20, Prostatotomy for Enlarged Prostate at the Age of Forty-two. By Dr. Abner Post, of Boston, Mass. 21, A Case of Removal of both Testicles for Recurrent Carcinoma, and 22, A Case of Nephrolithiasis complicated with Hydro-nephrosis, in which Lumbar Nephrotomy was performed. By Dr. F. W. Rockwell, of Brooklyn, N. Y. 23, Some Points on the Differential Diagnosis of Bladder and Kidney Affections, with Demonstrations of the Cystoscope and other Instruments, and 24, On the Physiology of the Bladder. By Dr. Alexander W. Stein, of New York City, N. Y. 25, Local Treatment of Chronic Urethral Discharges. By Dr. F. R. Sturgis, of New York City, N. Y. 26, Some Points on the Etiology of Stricture of the Urethra. By Dr. R. W. Taylor, of New York City, N. Y. 27, Operative Treatment of Hypertrophy of the Prostate, and 28, Spontaneous Fracture of Stone in the Bladder. By Dr. F. S. Watson, of Boston, Mass. 29, The Relation of the Prostate to Chronic Urethral Discharges, and The Value of the Tolerance of the Iodides as a Diagnostic of Syphilis, and 30, Urethral Stricture and Enlarged Prostate in their Relation to Vesical Calculus and Calculus Pyelitis, with Cases. By Dr. J. William White, of Philadelphia, Pa. By an invited guest: 31, The Prognosis of Stricture, based on thirty years' Death Record of Stricture at the London Hospital and the Practice at St. Peter's Hospital. By Dr. E. Hurry Fenwick, of London, Eng. 32, The Congenital Anomalies of the External Urethral Orifice. By Dr. C. Kaufmann, Zurich, Switzerland.

CURIOUS DEATH CERTIFICATES.

The Secretary of the Health Department of Baltimore receives many curious certificates from physicians of that city. From a number recently sent in the following "causes of death" are worthy of note: A report on the death of a lady, eighty-five years of age, reads: "Cause of death, fall from third-story window. Seeing it was a fatal case I let her die in peace, which she did in one hour and twenty minutes." Another certificate makes the sad announcement: "A boy four years old died from eating a heavy piece of apple-pie four hours before death."—*Philadelphia Med. and Surg. Reporter*.

THE SCRAPING OF VACCINE QUILLS.

The following letter from Dr. A. J. Comstock, of San Buenaventura, Cal., to the *Medical News*, contains a warning against a practice which is new to us, and one which we think does not obtain anywhere in this part of the country:

"Last spring we had an epidemic of smallpox on this coast, and during that time there was much vaccinating done. Many of our vaccinations failed, and in quite a number of my own cases where failure ensued I observed a peculiar growth, or excrescence, spring from the point of inoculation, which, at the time, I could not explain. At first I thought it might be keloid, but it was more fungoid in character. It would usually attain the size of a large pea, become wart-like in appearance, but very vascular at the base, easily scraped off with little pain, and would then bleed very freely. These growths only came in those cases where the virus failed to "take;" and in cases where I revaccinated at the same spot, by scraping off the growth, the tumor was destroyed, and the ordinary scar was left after the vaccine ulcer healed.

"This winter we have again had an outbreak of smallpox, and in vaccinating have again observed this growth follow in some cases under the same circumstances as those of last spring. I determined to solve the mystery to my satisfaction; and herewith give the secret according to my conclusions.

"We have had so many failures with our vaccinations that I had been in the habit of scraping the moistened quills with a knife-blade, thinking, in that way, to obtain all the virus, and then depositing the scrapings upon the denuded surface. After observing the growths, and considering the excitant causes that were suggested to my mind,

and the probability of each, it occurred to me that I had been doing "quill-grafting," in the same manner that skin-grafting is done to-day, by depositing the quill-cells upon the living tissue cells under the most favorable circumstances to insure their growth, reproduction, and multiplication. We try to obtain the freshest virus, and no doubt many of the quills used at the vaccine farms are freshly plucked, and therefore the component cells, at the point of the quill where the virus is deposited, retain their life property of reproducing themselves under favorable circumstances for several weeks afterward.

"I am positive that this is the correct solution of the matter. My partner, who used the same quills, but who was not so anxious to obtain all the virus from his quills, and therefore did not scrape them, had no like growths appear among his cases. There is no doubt that to-day there are hundreds of doctors throughout the land who practise scraping the quill when vaccinating, and I offer them the benefit of the lesson derived from my own error, and advise them to discontinue the practice. The growth is of no consequence, except the mental disturbance it is likely to cause a patient or family, who may be suspicious of any irregular occurrence following vaccination; and if scraping the quill should be much practised among physicians, it is likely to be a cause of increasing the popular prejudice against vaccination."

ANOTHER VICTIM TO THE FAITH CURE.

A correspondent of the *N. Y. World* writes from Washington that the "faith cure" mania has had another victim in that city. Although the friends of Mrs. Lucy L. Hunter, who for years has kept a circulating library at No. 1749 Pennsylvania Avenue, knew of her demise about two weeks ago, very few of them, except those among the near neighbors, knew of the circumstances attending her death. Mrs. Hunter had been a sufferer from cancer in the stomach, and about the first of last month was compelled to take to her bed. A friend, Miss Pollock, of Baltimore, was written to and came over to help nurse Mrs. Hunter and assist in managing the library. Miss Pollock is a firm believer in "Christian Science," or faith cure, and, influenced by her friend, Mrs. Hunter consented to try the system of mind-healing.

Miss Pollock took charge of the house, and, her patient growing worse, a professional faith doctor from Baltimore, Miss Schmidt, was called in, as was also a Mr. and Mrs. Smith, of this city, converts to the faith school. All visitors were excluded from the patient's room. Even her aged mother, Mrs. McLean, was not permitted to enter.

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Mrs. Hunter daily grew worse, and her thoroughly alarmed mother insisted on calling in Dr. Hagner. It was too late, however, to be of any service, for the deluded victim was beyond the reach of medical science. Dr. Hagner prescribed for the patient, but the neighbors insist that through the influence of the "Faith Doctors" his medicine was thrown out of the window. Mrs. Hunter lingered in agony until April 25th. The neighbors are open in their expressions of indignation at the treatment that Mrs. McLean received at the hands of the fanatics, who up to the last moment kept her from the bedside of her unfortunate daughter.

THE TREATMENT OF FOLLICULAR TONSILLITIS.

In seventy-five cases of follicular tonsillitis treated by Boislinière, forty-one were reported well in twelve hours, thirty-one in twenty-four hours, three in thirty-six hours. Average twenty hours. No local applications were used, no gargle, but solely the following formula :

Benzoate of sodium, - - 3j-3iv.
 Glycerine,
 Elix. calisaya bark, - - - āā 3j.
 M. Sig.—One teaspoonful every hour or two.

BERLIN DRUGGISTS AND BOGUS PRESCRIPTIONS.

It is said that a Berlin society sent out a long series of bogus prescriptions, containing, for example, "tuber cinereum," "urticaria rubra," "pemphigus foliaceus." These things were dispensed and paid for in over sixty Berlin drug stores.

THE HYGIENIC SIGNIFICANCE OF RE-VACCINATION.

Dr. R. G. Gerstäcker, in a paper with the above title, gives some valuable data compiled from the reports of the Imperial Board of Health, and also from the report of the Vaccination Committee. From their tables it appears that the mortality from small-pox in Prussia, formerly differing but little from that of other countries, has fallen to a minimum under the operations of the vaccination law, so that small-pox may now be considered as having disappeared, except in some

frontier districts, while Austria, with her defective regulations as to vaccination and still more so as to re-vaccination, suffers severely from small-pox. Dr. Gerstäcker presents the following table as to the mortality from small-pox in London and in Berlin, with the comment that, while London enforces vaccination of the children, it has not enforced re-vaccination. He attributes the difference in the relative mortality from small-pox in the two cities to these facts.

DEATHS FROM SMALL-POX PER 100,000 INHABITANTS.

	1875	1876	1877	1878	1879	1880	1881	1882	1883
In London	1.3	20.8	71.0	38.8	12.1	12.5	61.9	11.1	3.4
In Berlin	5.2	1.8	0.4	0.8	0.7	0.8	4.7	0.4	0.3

The percentages in the following table, for a period of six years, also present further evidence of the advantages of re-vaccination.

	Cases of Small-Pox.	Deaths from Small-Pox.	Unvaccinated.			Vaccinated.			Re-vaccinated.		
			Cases.	Deaths.	Percentage of Deaths.	Cases.	Deaths.	Percentage of Deaths.	Cases.	Deaths.	Percentage of Deaths.
1879	145	22	17	7	41.1	110	15	13.6	18	0	0.
1880	404	58	27	10	37.0	336	43	12.8	41	5	12.2
1881	559	78	56	27	48.2	466	48	10.3	37	3	8.1
1882	468	71	33	15	45.5	349	51	14.6	86	5	5.8
1883	247	34	11	5	45.4	198	29	14.6	38	0	0.
1884	63	8	4	2	50.0	51	5	9.8	8	1	12.5
Average,			44.6			12.6			6.1		

—*Boston Med. and Surg. Journal.*

THE USE OF WATER AT AND BEFORE MEALS.

Opinions differ as to the effect of the free ingestion of water at mealtimes, but the view generally received is probably that it dilutes the gastric juice, and so retards digestion. Apart from the fact that a moderate delay in the process is by no means a disadvantage, as Sir William Roberts has shown in his explanation of the popularity of tea and coffee, it is more than doubtful whether any such effect is in reality produced. When ingested during meals, water may do good by washing out the digested food and by exposing the undigested part more thoroughly to the action of the digestive ferments. Pepsin is a catalytic body, and a given quantity will work almost indefinitely, provided the peptones are removed as they are formed. The good effects of water, drunk freely before meals, have, however, another beneficial result—it washes away the mucus which is secreted by the mucous membrane during the intervals of repose, and favors peristalsis of the whole alimentary tract. The membrane thus cleansed is in a much better condition to receive food and convert it into soluble compounds. The accumulation of mucus is specially marked in the morning, when the gastric walls are covered with a thick, tenacious layer. Food entering the stomach at this time will become covered with this tenacious coating, which for a time protects it from the action of the gastric ferments, and so retards digestion. The viscid contents, a normal condition in the morning before breakfast, are not suitable to receive food. Exercise before partaking of a meal stimulates the circulation of the blood and facilitates the flow of blood through the vessels. A glass of water washes out the mucus, partially distends the stomach, wakes up peristalsis, and prepares the alimentary canal for the morning meal. Observation has shown that non-irritating liquids pass directly through the “tubular” stomach, and even if food be present, they only mix with it to a slight extent.—*The British Medical Journal*.

THE USE AND ABUSE OF ANTIPYRIN.

The use of this drug is becoming very general, not only when prescribed by the profession, but as a common remedy for headache by the laity without the advice of a physician. The following clippings from our exchanges bear upon both these points and are well worth the perusal of every one interested in the proper use of this powerful drug. The *Medical Press* in discussing the question, When should antipyrin be given, says :

"Antipyrin should be administered with or immediately after a meal, otherwise pain, nausea, and discomfort may result from its contact with the walls of the stomach. The cutaneous manifestations which sometimes follow its ingestion are probably due to vaso-motor disturbances characterized by peripheral dilatation of the arterioles. In certain cases the rash has simulated that of scarlatina, with intense itching. There is every reason to suspect that in consequence of the present great demand for the drug, due care may not be employed in its manufacture, and it is suggested that an analysis should be ordered whenever toxic symptoms are observed. Dujardin-Beaumetz claims to have detected a mixture of benzine in certain samples, the presence of which would explain many untoward effects. It should be borne in mind, especially by the public, that we have in antipyrin a useful but potent agent, the use of which in unskilled hands may and will in a certain proportion of cases give rise to severe and even fatal symptoms. Manufacturers would also do well to look a little more closely to the purity of the drug, otherwise it may fall into discredit."

The *Lancet* has the following caution: "The public attention given to the latest remedy for sea-sickness and many other affections to which flesh is heir has its percentage of evil as well as good. Every medicament is not an unmixed advantage, and to suppose that antipyrin may be taken recklessly any more than chloral is to adopt a position of a dangerous kind. Antipyrin has on several occasions been administered with unexpected results. It is a drug which has undoubtedly powerful effects on the nervous system, especially as tending to produce a lowering action. We must strongly protest against its indiscriminate employment without the supervision of a medical man."

A METHOD OF PROPHYLAXIS IN DIPHTHERIA.

BY AUGUSTUS CAILLE, M. D.,

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Read before the New York Academy of Medicine, January 19, 1888.

Reprint from THE MEDICAL RECORD, February 18, 1888.

Every experienced practitioner has probably observed that in certain families one or more of the members regularly take sick with diphtheria in the spring or fall of the year.

This is particularly true in the case of children, and, according to my personal experience, the months of October, November, March,

and April are those in which such patients are prone to contract the disease.

It occurred to me that persons thus frequently afflicted might harbor the diphtheritic poison, or the microbes essential to its formation and septic power, in their nasal and oral cavities most of the time, without damage to the organism ; but as soon as active hyperæmia of a neighboring mucous membrane took place from any cause whatsoever, the germs of diphtheria would readily find foothold in this damaged mucous lining, and manifest their presence in various ways and forms familiar to us.

In a spirit of investigation, and with the object of testing to a certain extent the correctness or fallacy of this view of auto-infection—which, by the way, may be held by other observers, and which is certainly not incompatible with our present knowledge of the disease under consideration—I selected eight patients of various ages, all of whom had suffered from true diphtheria, to my knowledge, twice or more prior to October 1, 1885.

Case.	Name.	Age. Years.	
1.	S. K.	14	} Members of one family who have had diphtheria once or twice each year from 1882 to 1885.
2.	E. K.	16	
3.	L. K.	26	
4.	G. S.	3	} Two attacks of diphtheria prior to October 1, 1885.
5.	E. B.	5	
6.	K. I.	12	} Three attacks of diphtheria prior to October 1, 1885.
7.	M. S.	3	
8.	G. S.	6	} More than three attacks prior to October 1, 1885.
			} Children belonging to one family ; both have had diphtheria several times.

The families represented in the above table by one or more members have been known to me for a long time, they live in different parts of the Tenth and Seventeenth Wards of this city, and each respective family has occupied the same house or apartments, and lived in the same surroundings, for a number of years. The adults enumerated above, and the parents of the children mentioned in my list, were intelligent enough to appreciate the importance of carrying out the following suggestions, viz. :

I. All carious teeth to be filled or extracted, and the teeth to be examined by a dentist from time to time.

II. The mouth to be thoroughly rinsed three times a day, after each meal, with one of the following solutions :

(a) Three per cent. solution of potassium chlorate in water ; or (b) liquor sodæ chlorinat. in water, 1 to 20 ; (c) a saturated solution of boric acid in water (four per cent.) ; the liquids to be alternately used and changed every four weeks. They were to be used as a gargle, as a mouth wash, and dropped into the nostrils by means of a medicine dropper three times a day.

III. In the case of the children not able to gargle, the liquid was to be dropped into each nostril from a pipette (medicine dropper), three times daily.

IV. These precautionary measures to be strictly carried out from October 1, 1885, for one year, or eventually for two years, except during the hot months, in which diphtheria had never been observed in these families, and when most of the parties under observation were out of town.

In addition to these eight cases, two infants, each about one year of age, who had never been sick with diphtheria, were treated during the time stated above in the following manner: Ten to fifteen drops of boric acid solution was dropped by means of the medicine dropper into each nostril twice a day, immediately on awakening and before sleeping, with the understanding that the boric acid solution was to be used in this way every three hours, if at any time symptoms of nasal catarrh should be noticed.

Results.—From October 1, 1885, to December 2, 1887, not one of the persons experimented upon suffered from diphtheria.

Patients Nos. 1, 3, 4, 6, and 8, had several attacks of acute pharyngitis and amygdalitis during the time of experimentation, characterized by a dusky redness of the throat with moderate swelling of the tonsils, and a moderate rise of temperature.

An adult member of the family at the head of the list (but not under observation) suffered from diphtheria in February, 1887. Patients 1, 2, and 3, members of the same family, were exposed to infection, but did not contract the disease.

The mother of one of the infants took sick with diphtheria in March, 1887; also the servant in the family. The infant was isolated from the sick ones, but not removed from the house, and did not take sick.

Remarks.—This brief but accurate report of the above facts does not embody the absolute proof of prophylactic cause and effect, but it certainly goes far to establish the belief that, if the nasal and oral cavities are kept tolerably clean by means of harmless, non-irritating liquids known to possess antiseptic (disinfectant) properties, the frequency of diphtheritic infection is markedly reduced.

The treatment of diphtheria is a perennial subject for discussion all over the civilized world; at the same time, rational and thorough prophylaxis has not received the attention from practitioners in medicine which it merits.

If we scrutinize the vast amount of information which has accumulated concerning the manifestations of what is known to us under the name of diphtheria—information which has been furnished by careful and competent observers, and by some of the most acute minds of the

present century, in the domain of practical and experimental medicine—we must candidly admit that we are not in possession of positive knowledge as to the nature of the diphtheritic virus, its mode of propagation, and its predilection for certain individuals, notwithstanding the most painstaking research of Loeffler, Emmerich, Wood, Formad, and others.

If we admit our ignorance of the true nature and significance of so-called diphtheria, we must also admit that we cannot with certainty differentiate clinically between contagious and non-contagious acute inflammatory changes of the mucous membrane of the naso-pharynx and buccal cavity; and we are thus compelled to look with suspicion upon all such changes, and apply our prophylactic and therapeutic measures in accordance with this view, which was first publicly proclaimed by A. Jacobi twenty-eight years ago, in a paper (published in the *New York Medical Times*) on diphtheria and diphtheritic affections, and publicly upheld in his controversy with B. Fraenkel, of Berlin, (*vide Berliner Klin. Wochenschrift*, Nos. 17 and 18, 1886), in an article entitled "Follicular Amygdalitis," published in *THE MEDICAL RECORD*, November 27, 1886.

Furthermore, we may safely commit ourselves to state that, although the line of treatment which we pursue in diphtheria is not without its influence in checking the progress of the disease and in stimulating the system until the disease shall have exhausted its virulent properties, we have no means of absolute control at our command, or, in other words, no specific treatment for diphtheria.

And, finally, as a logical sequence of such reasoning from facts, we certainly do not assert too much if we declare that, in the present state of our knowledge, practical methods of prophylaxis in diphtheria will be of more value to the community than the most approved method of treatment, whatever that may be.

And now, a few words about prophylactic measures. We have, in the first place, general preventive measures, such as hygienic legislation, enforcement of sanitary rules regarding dwellings, ventilation, food, occupation, erection of isolation hospitals, general disinfection, etc.; and, in the second place, methods of prophylaxis within the family and directed to or against the person or individual.

Without intending to underrate the importance of general sanitary enactments, I would suggest that in a large city only a limited number of inhabitants can live in salubrious surroundings, and that the majority of the people in large cities are not, and never will be, able to live in first-class healthy abodes; the more so as we are still in the dark as to the actual source of danger from infectious diseases, which makes it all the more difficult to escape from their embrace.

I am of opinion, therefore, that while the dictates of sanitary science should be carried out strenuously, the utmost importance should be attached to personal and individual preventive measures.

Now let us take up for one moment the subject of individual prophylaxis, and abstract from the vast literature of diphtheria such prophylactic suggestions as appear simple and practical. It has been a surprise to me to find the subject barely mentioned in the majority of our text-books and works of reference.

In the latest edition of Ziemssen, in Oertel's article on diphtheria, no mention is made of prophylaxis, and we look in vain for information on the subject in such text-books as Eustace Smith, "Diseases in Children," 1884; West, "Diseases of Infancy and Childhood," 1874; Day, "Diseases of Children," 1881; Meigs and Pepper; Rilliet and Barthez, "Maladies des Enfants," Paris, 1887; or the latest edition of Vogel's "Children's Diseases," who simply mentions isolation and fumigation of infected localities. Preventive methods are not mentioned in Buck's "Reference Handbook of the Medical Sciences," New York, 1886; and the author of the article on diphtheria, in the edition of "Eulenburg's Cyclopædia," disposes of the subject in ten lines, stating that he has seen no advantage from prophylactic gargles, and is of opinion that strong solutions do harm by causing hyperæmia, which is undoubtedly true. He mentions potassium permanganate, vinegar, alcohol, lime-water, carbolic acid water one-half per cent., and chlorate of potassium solutions as liable to do harm.

Austin Flint, in his "Principles and Practice of Medicine," speaks only of isolation of patients, and thorough disinfection of dejections and all articles which have been in contact with patients.

E. Schottin, "Die Diphtheritische Allgemein Erkrankung," Dresden, 1885, says, page 83: "I have known all attempts to prevent the spread of diphtheria by prophylactic measures to fail."

Semple, in a monograph on diphtheria, 1879, and E. S. Gaillard, "Diphtheria," a prize essay (Richmond, 1867), do not mention preventive measures; and G. F. Wachsmuth, "Die Diphtheritis Heilmethode," Berlin, 1886, simply says that a sponge-bath with friction is good preventive treatment for children.

In some other publications I have found the subject at least under consideration.

Max Gaube ("Entstehung der menschlichen Rachen-diphtherie," Leipzig, 1884), says: "A healthy mucous membrane of the pharynx and nose is an impediment to diphtheritic invasion."

Rigauer ("Die Diphtherie u. das kalte Nasenbad," Leipzig): "The abundant mucus in the naso-pharyngeal catarrh of children is excellent material for the growth and development of diphtheritic virus, which gets into the system through some epithelial lesion."

F. Stecher, a practitioner in Munich, has written an excellent monograph ("Zum Schutz wider die Diphtherie," Berlin, 1884), in which he says: "A healthy condition of the throat has the same importance in relation to diphtheria as a healthy stomach in times of cholera." He advises isolation, disinfection, and the wearing of a mask filled with salicylated cotton. Dust and smoke are to be avoided, carpets are condemned, children's necks should be washed daily with cold water, and they should gargle as soon as the throat is unusually red.

C. Gerhard ("Verhandlungen des 2. Congresses f. innere Medizin") says: "I feel convinced that prophylaxis in the household, and frequent cleansing of the nose and throat for the purpose of keeping them in a healthy condition, will do more good than the most approved methods of treatment."

In our own country, J. L. Smith ("Diseases of Children") has a short chapter on preventive measures in diphtheria. He advises isolation, disinfection of apartments, linen, spittoons. When diphtheria is prevalent children's fauces should be frequently and carefully inspected, and if they seem too red they should be sprayed with proper remedies.

H. Francotte ("La Diphthérie," p. 398, Paris, 1885,) says: "At the present time there is no efficacious prophylactic treatment for diphtheria. Children should be accustomed to changes of temperature by cold frictions of the whole body, frequent gargling with cold water, and an abundance of fresh air; and he suggests that gargles with antiseptic liquids may do some good by carrying away putrescible matter from the oral cavity. He also reports that Marotti, of Venice (*Gazz. Med. di Venezia*, October, 1884), has made twenty preventive inoculations for diphtheria in 1864.

Vincenzo Cozzolino ("Tratato della Difteria," Naples, 1887) reports, on page 309, that: "Norberto Perotti (*Archivio di Pathologia Infantile*, March, 1885,) recommends the black sulphide of mercury mixed with equal parts of gum arabic, to be insufflated. He claims that persons treated in this manner escaped contagion during an epidemic of diphtheria in Albano Laziale, a town in which he practised, except two children in his own family. Cozzolino believes that it may be possible in the future to prevent diphtheria by inoculating the attenuated virus.

I do not know how I could aid the cause of preventive measures in diphtheria more than by quoting the language of a physician who has studied this disease the greater part of his life.

Abraham Jacobi, in his treatise on diphtheria (the last edition of which appeared in 1880), says, on page 32: "As there are individuals, so there are families which have a predisposition to disease, and there are others in whom, notwithstanding ample exposure, infection does not easily take place.

"That the contagiousness of diphtheria should still be doubted is hardly possible, and still the public act as if it did not exist. It is certainly transmitted by spoons, glasses, handkerchiefs, and towels. Oertel has seen diphtheria of the pharynx which was communicated by the act of kissing, and developed in two days."—Pages 57, 58. "One important axiom must be borne in mind, namely, that prevention is more easy than cure, and there are certain prophylactic measures which will prove valuable in the hands of every good physician. It is necessary under all circumstances, that the mouth and pharynx of every child be constantly kept in a healthy condition."—Page 158.

Cases of pharyngitis and amygdalitis, no matter whether influenced by an epidemic or not, furnish an indication for the prophylactic use of potassium chloride.

On page 172 of the same work we read: "Unnecessary petting of the patient on the part of the well ought to be avoided—kissing forbidden. The well, or apparently well, children of a family that have diphtheria at home must not go to school or church. Teachers ought to be taught to examine throats, and directed to examine every child's throat in the morning, and return home every one barely suspicious."

Finally, I would refer to Dr. A. Jacobi's article on "Diphtheria Spread by Adults" (New York *Medical Journal*, September 24, 1884), and quote from his article on "Follicular Amygdalitis" (THE MEDICAL RECORD, November 27, 1886), as follows: "I claim that the name of follicular or lacunar amygdalitis is but a subterfuge for the lack of a correct or complete diagnosis," and "whether membrane or point, the contagiousness of the disease is the very same." With punctate diphtheria "the adult is in the street, in business, in the school-room, in the railroad car, in the kitchen and nursery. With this variety parents, while complaining of slight throat trouble, which is not heeded, kiss their children."

Can it be difficult to understand, in the light of such evidence, that the physician, if he be true to his calling, must strive henceforth to cultivate and carry out practical methods of prophylaxis in contagious disease? I think not.

Permit me to close this paper with a brief *résumé* of some of the points which appear to me worthy of attention.

In the city with densely populated districts, such as the Tenth, Eleventh, Fourteenth, and Seventeenth Wards of New York, the reconstruction of plumbing arrangements and erection of air-shafts in tenement-houses, are useful measures of sanitary reform if supplemented by universal attention to the details of individual disease prophylaxis, and it is the noble privilege of each member of our profession to aid our local health authorities by instructing the people in such matters as often as opportunity presents.

The overheating of school-rooms and living-apartments should be most emphatically denounced as dangerous.

Isolation of the sick should be explained and insisted upon, and the management of isolation hospitals for the poor should be such as to rapidly gain their confidence.

Enlarged tonsils should be reduced by the knife, or, better still, by means of the galvano-cautery. Carious temporary teeth of children should be removed promptly, and to the poor should be given the opportunity to have carious teeth filled with amalgam or cement for a nominal small fee or free of charge.

Parents should inspect their children's mouths and throats each day before sending them to school. Children readily learn to use their own fingers as tongue depressors, and it is important that they learn to gargle at an early age.

Children suffering from simple sore throat (apparently) should not attend school until they are quite well; and in follicular amygdalitis and other forms of sore throat, preventive measures should be strictly carried out.

The kissing of children upon the lips should be forbidden, and parents themselves should set an example in this direction.

Children old enough to gargle and rinse their mouths should be taught to do so after each meal, a weak solution of one of the harmless antiseptic chemicals to be used; and, in the case of young children, such solutions should be dropped in the nostrils regularly twice a day, or oftener if symptoms of nasal catarrh supervene. The outfit necessary for carrying out such proper measures consists of one ounce of the antiseptic chemical dissolved in a wine-bottle of water, and a medicine-dropper.

It should become a habit with parents to attend to these precautionary matters with the same regularity as they attend to other matters of cleanliness, and the best opportunity for the physician to introduce such measures is at a time when one member of a family has contracted diphtheria and there are others in danger of being infected.

Recognizing that it is impossible to lay bare and control all sources of diphtheritic infection, it will be more practical to teach the individual to protect himself and his surroundings by striving to keep in a healthy condition those parts which are found by experience to be generally affected.

Necessity being the mother of invention, let us hope and believe that in the near future we may have at our command simple methods of prophylaxis which may be safely placed in the hands of all rich or poor who are willing and intelligent enough to appreciate the benefit to be derived from their employment.

THE AMERICAN ASSOCIATION FOR THE CURE OF INEBRIATES.

The American Association for the Cure of Inebriates held its semi-annual Session in Brooklyn recently. Several papers were presented. One, by Dr. T. L. Wright, of Bellefontaine, Ohio, on "Points touching the Medical Jurisprudence of Alcoholic Inebriety," referred in large detail to the physical, mental and moral disabilities caused by alcoholic indulgence, and asserted that these were only the advance guard of pernicious results.

Dr. C. C. Fite, of Knoxville, Tenn., offered a paper on "The Prohibition Question from a Medico-Legal Standpoint," in which he predicted that long before Prohibition becomes general, the vital issue—the prevention and cure of drunkenness—will be reached by Society regarding habitual indulgence in alcohol as a disease, and denying the right of any individual to further a tendency, hereditary or acquired, toward the inevitable physical and mental damage which excess in drinking involves, insisting that he shall be protected—and with him those who; otherwise, might inherit the baneful effects of his excess—by treating and caring for him as are the insane, or the victims of other disease. The paper was a logical, forceful plea for the need of to-day—proper asylums where the alcoholic inebriate can have that rational, scientific treatment his case demands. Dr. J. B. Mattison, of Brooklyn, read two papers, "The Ethics of Opium Habitués," and "Antifebrin, vice Opium, as an Anodyne." In the former, he asserted that several years exclusive professional experience among a large and enlarging number of opium habitués convinced him that the popular idea that all men who use opium are liars, is a mistaken one. He argued that the prevalent opinion—uncharitable and untrue—of an opium habitue being merely the victim of vicious indulgence—was a leading factor in his desire to shield himself from censure, and claimed that a more rational and right appreciation of the situation—regarding such patients, with certain exceptions, as creatures of conditions beyond control—would be most helpful against the protective temptation to untruth. Besides, a more liberal and correct opinion on this score would have an important bearing on their medico-legal status and treatment. In his second paper, Dr. Mattison referred to the recent triumphs of analytical chemistry in giving the profession such valuable hypnotics as amylen hydrate and sulphonal, and, noting the far reaching value of any drug that will take the place of opium—which, while so great a blessing is so often a bane—expressed his belief that the new anodyne, Antifebrin, was the richest addition of modern times to the therapeutics of pain.

BROOKLYN VITAL STATISTICS FOR MAY, 1888.

By J. S. YOUNG, Dep. Commissioner of Health.

Population, estimated on January 1st, 1888.....774,870
 Inhabited houses, about.....85,000
 In the month of May, 1888, there were 1,254 deaths, the rate of mortality being 19.05 in every 1,000 of the population.

The number of births reported was.....907
 The number of marriages reported was.....434
 The number of still-births reported was.....124

The mortality by classes and by certain of the more important diseases was as follows:

Causes:

1. Zymotic.....	233
2. Constitutional.....	240
3. Local.....	630
4. Developmental.....	110
5. Violence.....	41
Measles.....	5
Croup.....	23
Diphtheria.....	92
Scarlet Fever.....	55
Typhoid Fever.....	2
Whooping Cough.....	5
Malarial Diseases.....	8
Diarrhœal Diseases (all ages).....	18
“ “ (under 5 years).....	14
Phthisis.....	162
Bronchitis.....	47
Pneumonia.....	153
All Respiratory Diseases.....	243
Bright's Diseases.....	37
Puerperal Diseases.....	15
Old Age.....	22
Suicide.....	5

Reported cases:

Diphtheria.....	241
Scarlet Fever.....	346
Measles.....	104

During the month 34 cases of small-pox were reported, of which number 34 were confirmed as small-pox. 31 cases of small-pox were sent to hospital. 1 death from small-pox occurred in the city and 7 in the hospital.

Deaths by sex, color, and social condition were as follows :

Male.	657	Female.	597
White.	1232	Colored.	22
Native.	890	Foreign.	364
Married.	317	Single.	758
Widows, Widowers, and not stated.	179		

Still-births (excluded from list of deaths) were as follows :

Males.	68	Females.	56
Total.	124		
Deaths in public institutions.	88		
Deaths in tenement houses.	407		
Inquest cases.	110		
Homicides.	2		
Suicides.	5		

Age Periods:

Deaths under 1 year.	244
“ “ 5 years.	223
Total deaths under 5 years.	467
“ “ 5 to 20.	152
“ “ 20 to 40.	227
“ “ 40 to 60.	191
“ “ 60 and upwards.	217

Certain foreign and American cities show the following death-rate for the month of May:

Brooklyn.	19.05	Berlin.	19.70
New York.	26.94	Vienna.	29.50
Philadelphia.	22.05	Paris.	23.54
London.	17.25	Glasgow.	22.60
Dublin.	24.95		

PROCEEDINGS
OF THE
MEDICAL SOCIETY OF THE COUNTY OF KINGS.

MEETING OF NOVEMBER 15, 1887.

At a regular meeting of the Medical Society of the County of Kings, held on Tuesday evening, November 15th, 1887, at the rooms of the Society, the Secretary presented to the Society the following recommendations from the Council :

1st. That the Society should publish its proceedings.

2d. That the title of the publication be "THE BROOKLYN MEDICAL JOURNAL."

3d. That the publication be issued twelve months in the year.

4th. That the Editorial Staff consist of five members of the Society to be appointed and subject to the control of the Council of the Society.

The Council recommend that the Trustees be allowed to use the funds of the Society to the extent of one thousand dollars for the support of the proposed medical journal.

Explanation was made that while the use of this sum was asked for to provide against an emergency, it was thought that after a few months the JOURNAL would be self-supporting.

Under the head of new business the recommendations of Council were taken up and discussed as follows :

Dr. WM. M. HUTCHINSON.—I rise to favor the first recommendation of Council, that the proceedings of the Society be published.

I wish to call your attention to some of the arguments that were submitted at the time when it was discontinued. In the first place, that the expense to subsidize the proceedings was greater than necessary, and that more could be done with that money in the way of increasing our library than was done by exchanging proceedings with other journals. It was also claimed that attendance at the meetings would be larger, as when the proceedings were published many of the members would not make an exertion to be present, knowing that they could read it all in the published proceedings.

Again, it was claimed that many of the valuable contributors in the Society had failed, since the publication of its proceedings, to present the Society with papers, and who had contributed valuable papers previous to the establishment of the publication.

In regard to the first argument that the money could be more advantageously expended, it is my opinion that with the \$600 that was called for, more was done with the proceedings than was expended for books and journals. The gentleman who made the argument claimed that the amount of journals received from other journals in exchange could be gotten for \$200, leaving \$400 for the establishment of a permanent home, but that object has now been accomplished.

As to what the facts will show as to the number of papers presented up to two years prior to the passage of that motion, the average number of papers prepared and presented here was 26, and that was computed by throwing out the two meetings of July and August. The average number of papers, on the other hand, presented for two years since the publication, was $19\frac{1}{2}$, nearly or about 25 per cent. less. That effectively answers the argument that it would increase the number of papers.

In regard to the attendance: I went far enough to satisfy myself that the attendance was greater before the proceedings were discontinued than it has been since, except the time we have been in our new building.

These are some reasons why I think the first recommendation or Council ought to be adopted.

Dr. F. H. STUART.—I am in favor of publishing the proceedings. The Society is in a very different situation now from what it was some time ago. The name of the journal will be changed, and it appears to me it will be not merely the organ of the Society, but a distinctively Brooklyn medical journal, which I think the Society may do well to father, and in every way there is reason why we should now take it in hand. I brought forward the reasons for discontinuance and laid them before you, and I have nothing to say at all in defense of them now. It was wise to discontinue it then, and it seems wise to begin it again now.

Dr. H. H. HUNT.—I suppose the report of the Council gives all the information that can be given. There has been a great deal of work done by the Council in getting estimates for expenses, etc. I would say that we would probably have the co-operation of our sister societies, all the societies meeting in this room, of which there are three or four; there are probably six at least, medical societies and quasi-medical societies, including the Dental and Pharmaceutical Societies, who would be glad to publish their proceedings with us. Three

or four, at their meetings of the last few weeks, have appointed committees to confer with us as soon as we make up our minds what we will do.

My great interest in the proceedings is as an aid to the library. I believe it would be one of the greatest aids you could put into the hands of your librarian. I would at once endeavor to get exchanges, not only with all the medical journals in the country, but also of the proceedings of the various medical societies of the world, which we are now deprived of. If I write to a medical society now that I want a volume of their proceedings, I get a reply to the effect that their proceedings sell for from \$5 to \$10 a volume, but they would be happy to exchange with us. I have several answers of that kind. We have very few of that class of volumes in our library. Another class of literature would come to us, which the old Journal did not bring, but which the new one would bring, namely, books from the publishers for review. I think, also, that with the co-operation of other societies it would be easy to get advertisements, which we will undoubtedly have to depend upon for the support of our Journal, the pharmacists can undoubtedly help us in that matter. I have had talks with several advertising firms and agents, and we think we have a great many points on that. One member of our Society has offered to look after the details of the business arrangements and to get advertisements, which was a great drawback in the old proceedings.

I believe, Mr. President, that the Council should propose that instead of its being distributed through the Society, it should be a journal for which a subscription will be asked.

Dr. CHAS. JEWETT.—There was one point, Mr. President, not made clear in regard to the plan of publication, and that was that the \$1,000 is a loan, and not a gift. The plan is that a subscription be asked for each member of the Society for a small sum—that is, the individual subscription for the journal for the year.

Dr. W. B. CHASE.—I presume there will be no voice raised against the use by the Council of the funds of the Society—whether we have power to appropriate money is somewhat in doubt—whether the Society has power to make a loan. If we act under the By-Laws, we can only appropriate at an annual meeting; but the By-Laws say that the money is under the control of the Board of Trustees, and that whatever the action of the Society is, it would be only advisory and not binding. Possibly they might instruct the Trustees.

Dr. WEST.—I think the custom of the Society as to the appropriation of money at the annual meeting has been slightly honored by precedent. There is nothing in the By-Laws which dictates when money shall be appropriated. I would say in explanation that the

By-Laws were thoroughly hunted and searched at the last Council meeting, and nothing to that effect could be found.

Dr. STUART.—I move that the recommendations of Council be adopted.

Seconded and carried ; so ordered.

Dr. JEWETT.—It would be necessary for the carrying out of this plan that some one be appointed to take charge of it.

Dr. THALLON.—I move, Mr. President, that this matter be referred back to the Council, and that they be authorized to use their best judgment in carrying the plan into execution.

Seconded and carried ; so ordered.

Dr. THALLON.—I was instructed to draw up such amendments to the By-Laws as would make the office of the Trustees conform to the rest of the By-Laws. I have done so, and will hand them to the Secretary, who can print them for the annual meeting.

On motion, the meeting adjourned.

CHAS. E. DE LA VERGNE,
Secretary.

MEETING OF DECEMBER 20, 1887.

A regular monthly meeting of the Medical Society of the County of Kings was held in their rooms, 356 Bridge Street, on Tuesday evening, December 20th, 1887.

The meeting was called to order at 8.15 P. M., Dr. Wallace in the chair.

There were about 100 members present.

The minutes of the previous meeting were read.

CHAIR.—Before the approval of the minutes, I wish to state that the Board of Trustees have talked this matter over very carefully, and they feel that they want to have the entire control of this \$1,000, which has been appropriated, according to some, merely as a loan, and, according to others, as an appropriation. They wish to have the sense of the Society as to whether it is a fund for them to use. At present, from all that we can see, there will be a probability of the whole of that \$1,000 being used in the first year, and they wish to have an authoritative vote by the Society whether it shall be at their disposal, with the hope that it may not all be used, but with the probability that some of it will be used.

The minutes were then approved.

Dr. J. S. WIGHT then read a paper entitled "Some Points in the Treatment of Fracture of the Patella," with report of cases, samples of the silver wire used, and also the screw and apparatus for its introduction were shown by the reader of the paper.

The paper was discussed by Drs. Hopkins, Burge, Buckmaster, Dixon Jones, Chase, and Wight.

Dr. B. F. WESTBROOK then read a paper entitled "The Treatment of Fever."

Dr. PILCHER moved that, as the hour was late, the discussion be made the special order of business at the next meeting. Motion seconded.

Dr. GRAY said that many of the members were present at an inconvenience in order to hear this discussion, and moved to amend that the discussion take place now. Amendment seconded and lost. Dr. Pilcher's motion was then carried.

The amendments to the By-Laws to make the office of the Trustees conform to the By-Laws offered by Dr. Thallon, was then read by the Secretary, as follows :

By order of Trustees and Council—

Amendments to By-Laws, Chapter 1, Section 2, add: "And five Trustees to be elected in the manner hereinafter provided."

Chapter II., Section 2.

In the order of business, the first seven items remaining the same.

The 8th to read "Report of Trustees, Chapter X, Section 6."

The 9th to read "Report of Treasurer on finances, Chapter VII., Section 4."

The 10th to read "Report of Librarian, Chapter VIII."

The 11th to read "Amendments to By-Laws, Chapter XIX., Section 1."

The 12th to read "Report of Standing Committee on Membership."

Chapter VII., Section 3, now reads: "On the written approval of the President, he shall pay all bills," amend to read, "On the written approval of the Chairman of the Board of Trustees, he shall pay all bills, etc.

Add Chapter X., Trustees:

Sec. 1. The Board of Trustees shall consist of seven members, viz., the President and Treasurer ex-officio, and five members of the Society:

Sec. 2. The five Trustees shall be elected by a two-thirds vote of the members present at the next annual meeting, to serve as they shall elect, as follows:

One for five years, one for four years, one for three years, one for two years, one for one year; and hereafter, at each annual meeting, a Trustee shall be elected to serve for five years.

Sec. 3. In the event of the death or resignation of one of the Trustees, the Council shall have power to fill the vacancy for the unexpired term of such Trustee.

The Trustees shall have charge of all the real and personal estate of the Society.

Sec. 5. It shall be the duty of the Trustees to supervise and direct the Treasurer in the investment of the funds of the Society; report the investments and the condition of the funds and property aforesaid to the Council when required, and annually to the Society. All funds and property shall be used only as specified by the donors and as provided by the charter.

No money shall be paid excepting on the order of the Trustees.

All checks and all orders withdrawing deposits from any bank, trust company, or money institution, shall be signed by the Treasurer, only on the written order of the Chairman of the Board of Trustees.

Sec. 6. The Board of Trustees may make rules and regulations for its own government consistent with the By-Laws of the Society.

A journal of the proceedings of the Trustees' meetings shall be kept, together with the names of the attending and absent members, and an abstract of the same presented as a part of the report of the Trustees at the annual meeting.

AMENDMENT.

The present Chapter X. shall be Chapter XI.

"	"	XI.	"	"	XII.
"	"	XII.	"	"	XIII.
"	"	XIII.	"	"	XIV.
"	"	XIV.	"	"	XV.
"	"	XV.	"	"	XVI.
"	"	XVI.	"	"	XVII.
"	"	XVII.	"	"	XVIII.
"	"	XVIII.	"	"	XIX.

The matter of the publication of the *BROOKLYN MEDICAL JOURNAL* was then brought up and discussed, as follows :

Dr. WALKER.—I received a notice saying that at the last meeting of the Society they had agreed to publish a journal, and on the strength of that notice I sent in a subscription. Now, we come here to-night and there seems to be some doubt about its publication. I would like to have a little light on that.

CHAIR.—At the last meeting of the Council, the corps of editors not feeling perfectly satisfied in their minds whether they had the full control of this thousand dollars, and feeling that there is a possibility of its being used up and then at the end of the year possibly the Journal coming to nothing, they wanted to know whether the Society wished them to take that risk or not. They were under the impression that they had the full control, but they felt it was best to have the full vote of the Society. At the last meeting there were only about fifty members present, and many of the members felt that they had no say in the disposal of this matter.

Dr. KRETZSCHMAR.—How do the finances of the Society stand at present, and have we got a thousand dollars which we can use for this purpose?

Dr. CHASE.—I am hardly prepared to state the exact amount in the treasury, but we certainly have \$1,000.

Dr. PROUT.—I think we ought to understand how we will stand when the year is out, and what the financial condition of the Society is. We have this building, taxes, etc., on our hands, and I think we ought to determine this point before we appropriate \$1,000; that is, we ought to know what the report of the Treasurer is before we can act intelligently in the matter.

Dr. MATTISON.—In order to save time, Mr. President, I make the motion that \$1,000 be appropriated to the support of the journal.

This motion was seconded by Dr. Wight.

Dr. HOPKINS.—I was very glad that I was not present at the last meeting, nor was I aware that the movement was on foot again to publish a journal. I felt it was a fatal mistake that the old proceedings were discontinued, and I am glad to see this thing resuscitated, and I feel that we can be assured of its financial success. We can also feel assured of its literary success when the chairman of the old committee is a member of this present committee—Dr. Hutchins.

When the proceedings were started, I was Treasurer of the Society, and saw the financial part of it. I believe that, with what you have provided now, a gentleman to secure advertisements, the journal will be a success. There was no difficulty in meeting all the expenses of the old journal from the advertisements in the beginning, when they were attended to. The vital point in the financial question is whether you have got the right man, who will give a sufficient amount of time to securing advertisements of a proper character for the journal. There were quite a number of advertisements that were refused under the old plan and ought to be refused now, and I hope that the same censorship that was maintained under the old management will still be enforced. But I do not think the Committee will need to touch any of this money after the end of this year, if the advertising department is well looked after. There is no journal published in New York City or the United States that is maintained by its subscribers; the majority of them are sustained by publishing firms who advertise their particular publications, and for other purposes of advertising; even the newspapers, it is the advertising that carries them, it is not the subscriptions. The paltry amount of two dollars which is subscribed will not amount to much of anything so far as the expenses of conducting the journal are concerned; but I think if the proper man could be secured, the thing would be a success beyond question, and will help the Society very materially.

Dr. MATTISON.—I endorse every word that Dr. Hopkins has said. It was a matter of great regret that the publication of the proceedings was discontinued. It was a credit to Kings County and this Society, and I do not think it can be anything but a success in the present hands.

In regard to finances, considerable money is now expended, I take it, for the journals on file in the rooms of this Society, and I think, with the publication of the BROOKLYN MEDICAL JOURNAL, we can have exchanges from all parts of the world. There is no reason why this Society should not have an exchange list as large as the New York Academy of Medicine. I do not think there is any question about it.

CHAIR.—Dr. Raymond can probably give us some information on this subject.

Dr. RAYMOND :—The facts so far as they are known to me are about as follows : The proposition which was first suggested in reference to the support of the Journal was that it should be paid for by advertisements and subscriptions. A suggestion was made that some of the other societies in the city might be glad to have their proceedings published and pay a *pro rata* amount. In canvassing this matter thoroughly we found that the members of the other societies were mostly all members of this, and the assessment which would be made upon them would practically be a double assessment, so I think we may leave any receipts from these societies entirely out of the question. We are then limited to advertisements and subscriptions. Although notices have been sent out to every physician in the city (I believe some have been unwittingly omitted—the names being taken from the city directory) thus far but sixteen subscriptions have been received, making \$32.00. The member of the Editorial Committee, Dr. Bailey, who kindly consented to take charge of the advertising, had, of course, a difficult task to go to advertisers and ask them to advertise in a journal without any existence or any subscription list—and yet, as a result of his efforts, assisted by Mr. McElhenie, \$1572 have been obtained in the way of advertisements. So we have at the present time about \$1,600. The cost of the Journal would be \$3,000 ; that is the lowest cost of publishing and mailing ; so that if we have no further subscriptions we would have about \$1,400 to raise. We have estimated that from the Society we will get at least 250 subscriptions, so I think we may calculate that our receipts from the present advertisements and subscriptions will bring the receipts up to about \$2,000 ; that will make a deficit of \$1,000. Now, what can be done in the coming year in the way of advertisements is, of course, a matter of doubt—we have no way of telling. Although the time has been limited and we have had nothing to show advertisers, yet we have received \$1,500 and there has been a very strict supervision over the kind of advertisements, no questionable advertisements having been admitted into the Journal.

When the committee came to look the matter squarely in the face they found themselves authorized by the Council to undertake the publication of the Journal and to draw upon the Treasurer for \$1,000, but at the same time they felt that from the phraseology which was adopted at that time, that after all this might be regarded by the Society as nothing more than a loan and that they might want some assurance at the end of the year this money would be returned. Whether it will be no one can tell. If the Society say publish, the Committee will go on and make every endeavor to get additional advertisements and sub-

scriptions, but the fact stares the Society in the face that at the end of 1888 the \$1,000 may be spent and nothing coming in to take its place, and the Journal may come to an end. The Committee want the Society to understand the condition of things, and they do not wish to have the charge made that they misrepresented the fact—they simply have in view to-day about \$1,600. The members of the Society know, as well as the Committee, how much they can get in the way of additional advertisements and subscriptions, but the Society, I think, must make up its mind to-night whether they will invest \$1,000 or not. If so, the Committee will try to make the Journal a success; if not, the Committee will feel that they have done their duty in the matter.

Dr. BURGE :—I think the risk of failure is very small, and I for one am in favor of giving them \$1,000.

Dr. WALLER :—It seems to me rather curious that subscriptions should be asked and that the Society at the same time should be expected to loan or donate \$1,000. It is incongruous. If the Society takes hold of it, it should take the place of the subscription list. The editors do not expect that there will be a very large subscription list, and I think it ought to be one thing or the other, and not a mixture.

Dr. GRAY :—I quite agree with Dr. Hopkins, that if this Journal is going to be made self-supporting it has got to be made so by means of subscriptions, and subscribers want to know what they are going to put their money into. Therefore if we ask advertisers to put their advertisements in we ought to be able to tell them how many people the Journal is going to reach, and I should think therefore that it ought to be sent permanently to every member of this society.

Again, I do not think the Society should ask medical gentlemen to go around and solicit subscriptions—none of us have any time for that. I think the Society either ought to say that it will not have anything whatsoever to do with the Journal, or else provide the means of getting advertisements. Very much better than a physician spending his time in this business, is an advertising agent who should be employed to procure advertisements and subscriptions, and I think he could get enough subscriptions to run it if it is to go to every member of the Society in Kings County. That ought to be tried before the Society is asked to permanently donate a certain sum. I, for one, should be in favor of donating \$1,000 providing the society can afford it.

Dr. KRETZSCHMAR :—I want to contradict the statement of one of the gentlemen who said that our exchange list would be as large as that of the New York Academy of Medicine. As they do not publish their proceedings, they do not have any, and if our list was as large as that I am afraid we would not have a very large list.

Dr. PROUT :—The answer which the Treasurer gave to my inquiry

as to the condition of the funds doesn't seem to me very satisfactory. He presumes there are about \$1,000 in the Treasury and that is to be expended for the foundation of the Journal. I remember the time when Dr. Hutchins commenced to publish the proceedings of this society and the first year they were published every member of the Society received a copy without cost to the members of the Society. It seems to me strange that at this stage of the proceedings we should be asked to appropriate \$1,000, and aside from that \$500 as members. I do not know why seven or eight years ago they did that, while now they ask the first year a contribution of at least \$1500.

Dr. HOPKINS :—Excuse me for occupying so much time, but in regard to the starting of the proceedings of the Society under Dr. Hutchins' management, the society voted a loan of \$500, I think. But of course any enterprise in starting out has to have something to start on, and during the first year there was no surety whatsoever of refunding that money, and yet there was a surplus at the end of the first year without counting the future subscriptions of \$1.50 for the JOURNAL for a year. The Secretary has on file among his papers a monthly statement of the finances which was filed with a simple financial statement of the Journal, and these can be procured. The great trouble was to announce to people what the circulation was. Our membership was then over 200—it is now over 400. I think that if we can go to advertisers and say to them we have 400 regular medical practitioners who will receive this journal, you can double your advertisements during the first year. The first thing they ask is, "What is your circulation?" Now, if Dr. Raymond has got \$1,500 without guaranteeing any circulation, if he can say he has a circulation of 400, I believe he can double that amount, but they must have a loan to get the Journal on its feet, but I think the title of the proceedings may prevent getting many advertisements; I think it ought to be "The Brooklyn Medical and Surgical Journal."

Dr. CHASE :—I regret, sir, that I cannot give a more positive answer, but it was not known until Saturday morning that this matter would be brought before the Society. I would say that my impression is that we have \$1,300 or \$1,400. Had I known that the report would have been called for, I would have been prepared.

Dr. RAYMOND :—In reference to the size of the Journal, I would say that the instructions from the Council to the Committee are—this is a plan submitted to them by the Council, it is not their own plan—to make it a journal of about 100 pages, and to make it include everything medical. That is more than three times the size of the original proceedings.

Dr. WESTBROOK :—I was not at the last meeting and I think I am

somewhat in the dark. The question of circulation, as has been said, is very important. I think that the circulation among the members of the Society, leaving out all those who have subscribed, judging from what one sees of our brethren, would probably fall below 150, because many of the gentlemen are already subscribers to other journals which they would not care to give up, and they might not care to take up any more. Would it not be better, Mr. President, if the Society lends the Journal \$1,000, or even gives it to them if they need it, that it be loaned or given with the understanding that all the members of the Society shall receive a copy of the Journal whether they subscribe or not?

A good many of the younger members of the Society will say, "I pay \$5.00 a year to the Society and the Society is giving \$1,000, and it seems to me I ought to have a copy of this journal which is supported by the Society, and lifted into being on the shoulders of the Society." I have asked the editors what they proposed to do about this, but they seem to have no definite plan. One said it would probably be sent around to everybody for the first two or three months, but it seems to me, Mr. President, that unless it would embarrass the editors, a copy ought to be sent to every member in consideration of this loan. I think everybody who would subscribe would still subscribe under those conditions, and I think it is quite probable that some of the eminent gentlemen who have addressed us might take two or more copies.

With Dr. Raymond's approval, therefore, I would move to amend Dr. Mattison's motion that in consideration of the loan to the Society all members of the Society shall receive a copy of the Journal.

Dr. RAYMOND :—The Committee had counted upon \$500 in subscription, so if Dr. Westbrook's amendment is carried we would want a loan of \$1,500.

Dr. PROUT :—I want to know what the condition of the society is; how are we going to stand at the end of 1888. \$1,000 is one-half of our annual dues, and if we donate that, will we have enough from our annual receipts to cover our expenses? If that is all clear, then it is all right, and I would vote for the appropriation.

CHAIR :—The Treasurer has got \$1,500 in hand, and the rent from other societies will pay the interest on the mortgage.

Dr. WIGHT :—Mr. President, I am in favor of publishing a Journal, the Brooklyn Medical and Surgical Journal, but I am decidedly opposed to putting into that as a scientific publication, all advertisements. I am decidedly in favor of the publication of such a journal under the auspices of this Society, but I would be in favor of leaving the \$1,000 where it is. It is far better to make it a broad and sound scientific medical journal. I offered \$50 a year to a New York enterprise some time ago to have such a journal in this county, and I will subscribe

\$10 now towards the support of such a journal, and if that is not enough I will take two copies, but I am in favor of leaving out all this advertising.

Dr. HOPKINS :—I quite agree with Dr. Wight, I would also subscribe to such a journal.

Dr. HUNT :—Dr. Westbrook gave the keynote in regard to the members having copies free of charge, and Dr. Wight struck the keynote in regard to the character of the journal. Less than a year ago I was laughed at because I said that we could raise money to buy a new building, and now the laugh is on the other side. Our Society has over 400 members ; the annual dues next year will pay us \$800 ; rents about \$300, the prospect that they will increase ; insurances will cost us \$200 and taxes as much more, and the interest on the mortgage \$150. The rents will certainly cover our interest, taxes and insurance. Our heating and lighting, etc., are a very small consideration. If we put \$1,000 into the Journal next year, I think it will be a simple thing for the Society, and they will have another thousand dollars to put into the library.

In regard to what Dr. Westbrook said I think this meeting to-night shows that the society is progressing, that we are going to get over going across the river for our consultations, libraries, etc. : we want these things at home. Brooklyn has been outdone by many of the small villages out West and South, credible medical journals being published in such places as Peoria, Dallas, Galveston, etc., while the great city of Brooklyn, the third city in the United States, has no medical journal.

Dr. VAN COTT :—It seems to me that Dr. Hunt has said after all the gist and substance of this matter, we are the third city in the Union ; we have a large population here ; we number amongst the physicians of Brooklyn those who are second to none in the country and it seems to me that it is a crying shame to obstruct such a thing as a medical journal, and I think that the home of a good representative journal in Brooklyn belongs to us, and I think if we neglect this important opportunity of taking hold of it, it will be snatched up by other societies and it will then be out of our reach. I am perfectly willing to leave the management in the hands of the gentlemen who are selected to manage it, and I certainly think we ought to try it for the first year at any rate.

Dr. RAYMOND :—If the Society, Mr. Chairman, carry out the spirit of what has been said here to-night, it will shoulder the Journal and will simply say to the Editorial Committee, "Get all the money you can from advertisements and subscriptions outside the Society and run the thing as economically as you can, and the Society will make up the deficit.

Dr. BARTLETT.—It is a very old saying that what is worth doing at all is worth doing well. We have progressed so far in having an ex-

cellent staff, and I think we ought to come forward in a right spirit and second them. It strikes me that the suggestion of Dr. Raymond that a resolution should be passed instructing them to go ahead and do their best, and what ever deficiency, not exceeding \$1,500, there is at the end of the year the Society will make up, is a good one.

Dr. MATTISON withdrew his original motion and offered the following :

RESOLVED, that the Council be empowered to go ahead and solicit subscriptions and advertisements and to publish the journal, and that any deficit not exceeding \$1,500 at the end of the year, be made good by the Society.

Dr. WESTBROOK moved to amend by adding, "That each member of the Society receive a copy of the journal whether he subscribes or not."

This amendment was seconded and carried.

Dr. MATTISON's resolution, thus amended, was then put and carried.

The business of nominating officers for the ensuing year was then taken up, and the following nominations were made :

President : Dr. Wallace.

Vice-Presidents : Dr. A. R. Matheson, E. J. Bartley.

Secretary : Dr. De La Vergne (declined), Dr. Wm. H. Hutchinson, Dr. Jones.

Assistant Secretary : Dr. Bailey (declined), Dr. Meyerle.

Treasurer : Dr. Chase.

Librarian : Dr. Hunt.

Censors : Drs. C. Jewett, A. Hutchins, J. A. McCorkle, F. E. West, G. R. Butler.

Trustees : Drs. C. Jewett, A. Hutchins, J. H. Hunt, A. R. Matheson, William H. Thallon.

Delegates to Queens County Medical Society : Dr. J. B. Mattison and Dr. Chase.

Delegates to New York State Medical Society : Drs. B. F. Westbrook, Maddren, J. A. McCorkle, Charles De La Vergne.

Dr. BARTLEY.—I had a matter, Mr. President, that I wished to bring before the Society, and I am sorry that I could not do so earlier in the evening ; however, I will state it very briefly.

About five or six years ago, the National Board of Trade adopted a plan to secure a method to prevent adulterations in food and drugs. They appointed a committee to suppress that trade by a law which was presented to Congress, but failed to pass at that time. Since then the matter has been taken up, and the law, as framed at that time, with slight modifications, has been printed and has been broadly and thoroughly discussed by some interested in food adulterations ; but physi-

cians and medical societies have not yet taken very much notice of it. I should like at this time to call the attention of the Society to it, and ask that a committee be appointed to whom this matter may be referred for report at the annual meeting—a committee of two or three that will investigate this matter, and I will give them all the information I am able to, this committee to report back as to whether the Society shall advocate or any way lend assistance to the recommendation of this law to Congress.

The object is to limit importation and transportation from one State to another of adulterated drugs and food. It strikes me that the evidence presented by our last Committee on the "Variance of strength in drugs" warrants our taking some action in regard to it. It is simply, you observe, for the control of importation from one State to another of adulterated food and drugs. The Board of Health have no method to prevent this.

Dr. MATTISON moved that a committee of three be appointed, of which Dr. Bartley should be chairman.

Seconded and carried ; so ordered.

On motion the meeting was adjourned.

CHAS. E. DE LA VERGNE,

Secretary.

MEETING OF JANUARY 17, 1888.

The sixty-seventh annual meeting of the Medical Society of the County of Kings was held in the Society rooms, 356 Bridge Street, Tuesday evening, January 17th, 1888.

The meeting was called to order at 8.30 P. M., Dr. Wallace in the chair; Dr. C. E. De La Vergne, Secretary.

There were about seventy-five members present.

The minutes of the last meeting were read and approved.

The President declared the following individuals elected to membership:

Dr. Henry D. White; Dr. Wm. E. Stratton; Dr. O. A. Gordon; Dr. Eugene Hodenpyl; Dr. Mary Wattles Faunce.

The Annual Report of the Secretary was read as follows:

There were ten regular meetings and five special meetings of the Council held during the year.

Dr. Wallace was present at 15 meetings.

" Matheson "	" "	14	" "
" De La Vergne "	" "	14	" "
" Jones "	" "	12	" "
" Chase "	" "	12	" "
" Hunt "	" "	12	" "
" Jewett "	" "	8	" "
" Hutchins "	" "	4	" "
" McCorkle "	" "	9	" "
" West "	" "	14	" "
" Butler "	" "	9	" "

Dr. Hutchins is the only member absent from three successive meetings without excuse, and he is therefore ineligible to office for the ensuing year.

(Ch. ¹⁰ Sec. 5 of the By-Laws: "And if it shall appear that any member has been absent from the ⁶ stated meetings in succession without having assigned a satisfactory reason, he shall be ineligible to office for the ensuing year.")

On motion, this report was received and adopted.

The Annual Report of the Treasurer on Membership was read :

Members resigned during the year—A. S. Allen, John Cooper, J. F. Feeley, E. H. Wilson.

Total membership :

Active list.....	301
In arrears with Treasurer.....	12
To be dropped for non-payment of dues	10
Non-resident members.....	2
	<hr/>
	325

Four members have resigned during the year; twenty-four new members have been added to the roll, one has been reinstated, and twenty-two dropped for non-payment of dues.

On motion this report was accepted.

The amendments to the By-Laws as incorporated in the minutes of the December meeting were, on motion, adopted as a whole.

Next business in order was the election of officers and delegates for the ensuing year. Before the polls were opened, the following changes were made in the nominations :

For Censor—Dr. De La Vergne, in place of Dr. G. R. Butler.

For Vice-President—Dr. E. H. Bartley, declined.

Delegate to Queens County Society—Dr. Walter B. Chase, withdrawn (already an honorary member).

Delegate to New York State Society—Dr. De La Vergne, declined.

Tellers—Dr. L. F. Criado, in place of Dr. Healey.

Dr. Maddren moved that the By-Law rendering Dr. Hutchins ineligible for office on account of absence from three successive meetings of Council, be suspended.

Seconded and carried; so ordered.

The polls were then declared open, and the balloting for officers and delegates was proceeded with.

The ballots having been collected, the polls were declared closed, and the Tellers presented the following report :

For President—Total number votes cast, 55; of which Dr. Wallace received 55 votes, and is therefore unanimously elected President.

For Vice-President—Total number votes cast, 55; of which Dr. Matheson received 48; Dr. Bartley, 6; and defective ballots, 1; therefore Dr. Matheson is elected Vice-President.

For Secretary—Total number votes cast, 55; Dr. Hutchinson received 44; Dr. Jones, 10; and defective ballots, 1; therefore Dr. Hutchinson is elected Secretary.

For Assistant Secretary—Total number votes cast, 55; of which

Dr. Myrole received 55; and is therefore unanimously elected Assistant Secretary.

For Treasurer—Total number votes cast, 55; of which Dr. Chase received 55; and is therefore unanimously elected Treasurer.

For Librarian—Total number votes cast, 55; of which Dr. Hunt received 55; and is therefore unanimously elected Librarian.

For Censors, 5 in number—Total number votes cast, 55; as there are no opposing candidates, the following gentleman are elected: Drs. Jewett, Hutchins, McCorkle, West and De La Vergne.

For Trustees, 5 in number—Total number votes cast, 55; as there are no opposing candidates, the following gentlemen are elected: Drs. Jewett, Hutchins, Hunt, Matheson and Thallon.

For Delegates to Queens Co. Med. Society—Total number votes cast, 55; of which Dr. Mattison received 33; Dr. Chase, 18; and defective ballots, 4; Dr. Mattison is therefore elected Delegate to Queens Co. Med. Society.

For Delegate to N. Y. State Med. Society—Total number votes cast, 55; of which Dr. Maddren received 23; Dr. Westbrook, 20; and defective ballots, 12; Dr. Maddren is therefore elected Delegate to N. Y. State Med. Society.

<i>Tellers</i> {	H. L. COCHRAN,
	F. PERCY JENKS.
	L. F. CRIADO,
	C. EUGENE GUNTHER.

The Annual Report on Finances and recommendations of the Treasurer were read as follows:

TREASURER'S ACCOUNT PERMANENT FUND, 1887.			
Jan. 18.	Cash on deposit in Williamsburg Savings Bank..		\$2,133 71
Mch. 29.	Deposit in Williamsburg Savings Bank from funds in hands of Treasurer.....		140 00
<i>Disbursements from Permanent Fund.</i>			
Feb. 21.	Cash paid Mrs. Elizabeth Hazard, being first pay- ment by Board of Trustees towards purchase of premises, house and lot, 356 Bridge Street..	\$500 00	
Apl. 20.	Cash paid Mrs. Elizabeth S. Hazard, being amount withdrawn from permanent fund by Board of Trustees towards purchase of premises 356 Bridge Street.....	700 00	
July 18.	Interest for past six months		21 46
" 21.	Cash for payment of sundry bills for account Board of Trustees from permanent fund.....	1,000 00	
			<hr/> \$2,295 17
" 22.	Cash for payment of account for Board of Trustees from permanent fund.....	50 00	2,250 60
			<hr/> \$45 17
1888.			
Jan. 1.	Interest on \$45 17 to date.....		90
			<hr/> \$46 07

TREASURER'S SUMMARY FOR THE YEAR 1887.

Ordinary receipts from dues and initiations	\$1,551	00
Cash on hand, Jan. 19, 1887.....	1,191	56
	<hr/>	
		\$2,742 56
Cash from sale of Trans. Med. Soc., State New York.....	4	75
Cash rebate on insurance on library incident to removal to 356 Bridge Street	4	50
	<hr/>	
		9 25
	<hr/>	
		\$2,751 81

Disbursements.

Appropriations to Directory for Nurses and Librarian, and current expenses of the Society for the year (see vouch- ers).....	<hr/>	
		1,388 02
Balance.....	<hr/>	
		\$1,363 79
Cash in hands of Treasurer from Board of Trustees account..		20 10
Cash on deposit Williamsburg Savings Bank.....		46 07
	<hr/>	
Cash assets of Society.....		\$1,429 96
Less amount in Savings Bank,		46 07
	<hr/>	
Cash in hands of Treasurer.....		\$1,383 89

Jan. 17, 1888.

RECOMMENDATIONS OF TREASURER.

1st. That the annual dues for the year 1888 be \$5.

2d. That as the cost of the Transactions of the Medical Society of the State of New York for the year 1887 was \$1.39 per volume, not including transportation, the price to members, of Transactions for 1888, be \$1.

3rd. That the officers of the Society, members of standing committees, and new members, receive a copy of the Transactions of the State Society gratis.

In April last, the Board of Trustees, in pursuance of power given them at an adjourned annual meeting, purchased this property, 356 Bridge Street, paying for it \$8,000. \$5,000 of this sum was paid in cash and the balance met by a mortgage of \$3,000 at the rate of five per cent. per annum.

Ninety-two persons—all but one, members of this Society—contributed to the Building Fund \$5,000 in sums of \$5 to \$500, an average of nearly \$55 each. It is hoped that the gifts of the 233 members who have not yet subscribed will be sufficient to extinguish the debt of the Society. An average contribution of \$13 each would be sufficient for this purpose. Probably the year now closing is the most auspicious in the history of the Society.

One year ago, an expression of opinion made by our librarian that

two thousand dollars could be raised towards a permanent home for the Society, was received with a spirit of incredulity.

To-day we are in possession of these pleasant and commodious premises, in the opinion of competent judges amply worth the cost; and the debt not burdensome, which the profession of this city could easily liquidate. Some of the gifts to the Building Fund were large and generous, others were smaller but equally acceptable, and all evidence of the regard and interest the members of the Society have in its welfare.

In view of what has been accomplished during the year, may we not hope another year will find us without debt?

The outlook is most hopeful and encouraging. With a home of its own, a library and reading room open to the whole medical profession, with convenient quarters in which this Society and most of the kindred sister organizations hold their meetings (which for years has cost us an annual rental of \$500), with a "Directory for Nurses" which has already conferred great benefits alike to the medical profession and laity, with bright prospects for increasing usefulness, with the establishment of a medical journal in the hands of an able corps of editors (which, I venture to predict, will be second to no similar publication), with a membership enthusiastic in the prosecution of scientific work, which is, as it should be, its principal function—the Medical Society of the County of Kings has become more truly than ever before the centre of medical influence in this great city. It will be observed that the pledge of the Society at the last meeting, after full discussion, given to the management of the *BROOKLYN MEDICAL JOURNAL* for \$1,500, is a sum little in excess of that now in the hands of the Treasurer, which appropriation insures every member a copy.

The Committee of the Board of Trustees, which has in charge the rental of these rooms, estimates the income from that source will not be less than three hundred dollars for the current year, an amount about equal to the taxes and interest on the mortgage.

All of which is respectfully submitted.

WALTER B. CHASE,

Treasurer.

BROOKLYN, January 17th, 1888.

On motion the report was received and adopted as read.

The Chairman appointed Drs. Colton and Palmer an Auditing Committee to audit the Treasurer's accounts. After examining the accounts, the Committee reported that they found them correct and that they corresponded with the vouchers submitted.

The annual report of the Librarian, with recommendations, was then read, and on motion adopted.

The annual report of the Trustees was then read, as follows:

REPORT OF TRUSTEES.

MR. PRESIDENT AND GENTLEMEN :

The Trustees appointed at the annual meeting of 1887, promptly organized with Dr. Matheson, Chairman, Dr. Chase, Treasurer, and Dr. Thallon, Secretary.

Eight regular meetings were held, Drs. Matheson, Chase and Thallon being present at all, Dr. Wallace at 7, Drs. Hunt and Jewett at 6, and Dr. Hutchins at 3 ; the average attendance at each meeting being 6. In addition to the regular meetings the various sub-committees have held meetings too numerous to chronicle.

In addition to the purchase of this building, it has been improved by the raising of the roof front and rear, the introduction of a new furnace and ventilating apparatus, a new range, new painting and papering, and furnishings throughout. In making these alterations the Trustees have been greatly helped by the professional assistance of Mr. R. L. Daus, Architect, of 26 Court St., and as this gentleman gave his services entirely gratuitously, they desire to express publicly their thanks for the same.

The Treasurer's report will show in detail the actual receipts and expenditures and it is only necessary in addition in this connection, to state that every dollar contributed by the Society's fund or the donations of individual members has been applied in the purchase or improvement of this building. The Trustees have had no expenses.

On the eleventh of October, after we were comfortably installed, the Trustees issued invitations to every member of the profession in Kings County to an informal house-warming. About 200 honored us by being our guests. It is perhaps needless to remark that the expenses of this modest entertainment were borne by the Trustees individually, and not by the Society. Similarly all the expenses attendant on the various documents, which have been printed and distributed were the individual contribution of one Trustee, over and above his subscription to the Building Fund.

In looking over the past year we feel proud of the great progress of the Society has made, and that you chose us to administer your Trust.

Just \$5,000 has been donated by less than one-third of the members of the Society. A number of members who have promised donations have not yet sent in their subscriptions to the Treasurer, but doubtless will soon do so. In order to reach the remaining members of the

Society, we have employed a medical gentleman who will call on those not yet interested to solicit subscriptions; all such donations will be duly acknowledged as received. The members who so far have contributed are :

Dr. G. A. Ostrander,	\$25 00	Dr. J. C. Kennedy,	\$10 00
Dr. A. T. Fairbairn,	25 00	Dr. W. A. Bennett,	50 00
Dr. N. Matson,	25 00	Dr. B. Edson,	25 00
Dr. F. R. Newman,	25 00	Dr. W. Gilfillan,	100 00
Dr. G. A. Evans,	25 00	Dr. G. W. Brush,	25 00
Drs. Hall and Mosher,	50 00	Dr. T. A. Joye,	25 00
Dr. B. Ayres,	25 00	Dr. H. Fearn,	25 00
Dr. J. A. McCorkle,	100 00	Dr. A. Otterson,	50 00
Dr. A. Stub,	10 00	Dr. H. N. Read,	25 00
Dr. E. A. Lewis,	50 00	Dr. H. Lowenstein,	100 00
Dr. J. T. Conkling,	100 00	Dr. J. N. Freeman,	50 00
Dr. E. H. Bartley,	25 00	Dr. A. R. Matheson,	100 00
Dr. J. A. Jenkins,	10 00	Dr. P. Kretzschmar,	50 00
Dr. C. Zellhofer,	25 00	Dr. Z. T. Emery,	100 00
Dr. F. H. Stuart,	50 00	Dr. G. R. Hall,	10 00
Dr. J. H. Droge,	5 00	Dr. J. Nehrbas,	5 00
Dr. R. Ormiston,	100 00	Dr. C. Corey,	25 00
Dr. F. A. Jewett,	10 00	Dr. H. F. Williams,	25 00
Dr. J. J. Lamadrid,	25 00	Dr. J. S. Wight,	50 00
Dr. A. Mathewson,	50 00	Dr. W. A. Little,	25 00
Dr. H. W. Rand,	25 00	Dr. C. N. Jones,	25 00
Dr. A. J. Dower,	50 00	Dr. G. Palmer,	25 00
Dr. D. G. Bodkin,	250 00	Dr. A. Hutchins,	100 00
Dr. W. Maddren,	100 00	Dr. E. A. Hatch,	5 00
Dr. E. Reynolds,	50 00	Dr. J. M. Raub,	10 00
Dr. J. Harrigan,	100 00	Dr. G. W. Welty,	25 00
Dr. W. H. Thayer,	25 00	Dr. J. Byrne,	50 00
Dr. W. H. Kretzschmar,	10 00	Dr. C. Jewett,	100 00
Dr. W. M. Thallon,	100 00	Dr. J. L. Zabriskie,	100 00
Mrs. K. N. Trask,	250 00	Dr. G. R. Fowler,	200 00
Drs. Cochran,	20 00	Dr. C. Olcott,	100 00
Dr. W. Wallace,	100 00	Dr. J. H. Hunt,	25 00
Dr. J. Lester,	10 00	Dr. L. S. Pilcher,	25 00
Dr. J. H. Raymond,	5 00	Dr. W. M. Hutchinson,	5 00
Dr. C. P. Gildersleeve,	5 00	Dr. B. F. Westbrook,	100 00
Dr. J. M. Van Cott,	5 00	Dr. G. R. Kuhn,	25 00
Dr. J. Van Ness,	10 00	Dr. C. E. De La Vergne,	25 00
Dr. A. W. Shepard,	500 00	Dr. G. McNaughton,	25 00
Dr. F. W. Rockwell,	50 00	Dr. N. B. Sizer,	10 00
Dr. A. J. C. Skene,	250 00	Dr. W. B. Chase,	25 00
Dr. R. Dickinson,	10 00	Dr. J. Atkinson,	15 00
Dr. T. French,	100 00	Dr. J. S. Prout,	100 00
Dr. F. West,	25 00	Dr. G. E. Law,	10 00
Dr. E. Gunther,	25 00	Dr. L. B. Irish,	10 00
Dr. W. H. Pratt,	100 00	Dr. H. L. Bartlett,	50 00

Total, \$5,000 00

More gratifying still is the amount of professional good-will this building has been the means of eliciting. In addition to our own Society the following societies now meet within these walls :—

The Pathological Society,
The Brooklyn Surgical Society,
The Dental Society,
The Pharmaceutical Society,
The Microscopical Society,
The Academy of Anthropology,
The Astronomical Society.

All of these organizations contribute to the revenues of the Society.

The progress so far achieved is not a finality, indeed it is but a beginning. We believe that each year should bring its quota of contributions to strengthen both our financial and professional standing. We believe that such will be the case, and that each year more and more members of the Society will realize that the best methods of promoting each one's individual good is by furthering the interests of the whole.

WILLIAM M. THALLON,
Secretary

On motion the report was received and adopted.

The report of the Committee on Directory for Nurses, was presented by Dr. F. H. Stuart, as follows :

ANNUAL REPORT OF DIRECTORY FOR NURSES.

Number registered (since March 1st, 1885,) Males.....	24
Females.....	191
Total.....	215
Number Graduates in above	74

Receipts.

Registrations.....	\$175 00
Applications.....	502 00
Wet-Nurse	5 00
Annual Fees	10 00
Postals	2 95

	\$694 95
Appropriation	160 00

\$854 95

Less sundry expenses.	43 04
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\$811 91

Disbursements.

Expenses.....	\$675 34
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Balance on hand	\$136 57
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\$811 91

Balance on hand.....	\$136 57
Received from Jan. 1st to date	50 00

Cash on hand Jan. 14th, 1888.....	\$186 57
Jan. 14th, 1888.	

E. K. PROVOST, *Sec.*

Making a total cash on hand to date of \$136.57.

Having this balance it will not be necessary to ask the Society to make any new appropriation for the salary of the Secretary, for performing the work of Assistant Librarian.

These figures show that the Directory is more than self-sustaining, merely from a financial point of view. It is very gratifying to all connected with the Directory, and it must be specially gratifying to the members of the Society, that it is so. It is now upon its own feet, and there is no longer any likelihood of its being an expense to the Society, if it is properly sustained by the members of the profession.

I would like to add to the report a remark or two, calling the attention of the profession to the importance of sustaining the Directory.

It would be very difficult to express what this Directory has been to the Society in the matter of our Library and Building. It has not contributed much in dollars, but it has opened the way very materially toward the very gratifying results, which we have heard to-night from the Trustees and from the Librarian. Without the Directory, with its very efficient Secretary, we should have to expend a very large sum of money every year to get some one equally competent to take the position of Assistant Librarian, to take charge of the books and to do the immense amount of work in cataloguing, that the Librarian has referred to, and to keep the rooms and books in such order as we find them when we come here. To thoroughly appreciate all this we must go back to the period previous to the existence of the Directory, and contemplate a reading-room with the books laden with dust, with nobody there to answer questions intelligently as to where a journal or a book was to be found, and when if you went to consult a book you were obliged to almost literally wade through dirt to get at it, if perchance you could set your eye upon the book you wanted. All this change has been brought about by the establishment of the Directory, and a reference to the remarks that were made at the time the Directory was established will show that these very things were contemplated in the establishing of it. Now that it is established and is running, it is very important that it should be maintained. It does not cost any one one dime for sustaining the Directory, for which, more than an equivalent is not returned. For the experience of every one was, when they wanted a nurse, a portion of a day had to be spent, and sometimes a very large portion of it, in finding where the nurse was stopping, if perchance you knew whom she was stopping with. You had to find where he or she was, and then go to the place where they were fulfilling their duties as nurse. The saving of time and of car-fare or carriage-hire expended for that purpose, is more than a compensation for the \$1.00 or \$2.00 (for the fee has been reduced) that is paid to the Directory for securing a

nurse. So that the fee that the Directory exacts for the furnishing of information, is more than paid back in an equivalent, much more than when you go to the store and purchase your coffee or your sugar or your calico, or anything else. Hence the Directory ought to be sustained by every member of the profession. Then, the Directory is a great deal more valuable to-day than it was the first of March, 1885, when it was opened to the public, as the nurses have had this time to make a record for themselves. The Directory has a supervision over the nurses. The answers that are received from the patrons of the Directory, and also from the physicians under whom the nursing is carried on, act as a spur to the nurses to do their best work. We are no longer annoyed, and oftentimes put to a certain amount of embarrassment, by having the nurse, upon the day when she knows it to be your last visit, lay before you her testimonial book and ask you with her sweetest smile to give her a recommendation. You certainly have never been able to refuse to give a recommendation, but oftentimes you wish that you did not have to. But this thing is now past. You will make your report to the Directory, and the nurse knows that this is not going to be made out while she looking over your shoulder. We get better nursing, I am sure, from those who would otherwise be inclined to be lax.

These two things, watchfulness over the nurse, and giving an equivalent for all that the Directory exacts for furnishing information, are the prominent points that I wish to make in regard to the Directory. Another point is, that the Directory is doing a great deal for the Society, in that by its income it is able to keep in the employ of the Society, just as much as though the Society paid the full amount of the salary of an assistant Librarian, the services of one who does the work as well, and of this we are all daily witnesses.

In conclusion we ask the profession loyally and constantly to support the Directory by making constant use of it.

FRANCIS H. STUART, M.D.,	} Committee.
ALEX. HUTCHINS, M.D.,	
A. J. C. SKENE, M.D.,	

On motion this report was received and adopted.

The recommendations of the Librarian were then taken up individually, discussed, and adopted in their entirety.

The recommendations of the Treasurer were then taken up *ad seriatim*, discussed, and adopted.

The Committee on legislation to "prevent adulteration of foods and drugs" reported as follows :

The Committee appointed by the President to examine and report to the Society upon the proposed National Pure Food and Drug legislation beg leave to report as follows :

After an examination of the subject, we believe there exists a necessity for some national legislation for the suppression of adulterations in foods and drugs in this country. While several of the States have adopted laws intended to check this evil within their jurisdiction, they have no authority over custom houses at ports of entry, or the transportation from State to State. In States where such laws exist the appropriations are often insufficient to enable the State Boards of Health to properly carry out their provisions. We find that the National Board of Trade, in conjunction with a National Convention called for the purpose, at Washington, on January 19th, 1887, have drafted a bill to be submitted to Congress at the present session, which bill is designed to prevent the importation, and the transportation from State to State, of adulterated foods and drugs.

We append the text of the proposed law. As it aims to control an important matter not under the jurisdiction of the State authorities, it is the opinion of your Committee that this Society should lend its influence toward such legislation. They therefore respectfully submit the following resolution for the consideration of the Society :

RESOLVED, That the Medical Society of the County of Kings heartily endorse the movement of the National Board of Trade and the National Pure Food Convention in efforts to secure national legislation for the suppression of adulterations of food and drugs.

RESOLVED, That a copy of these resolutions be transmitted to the Pure Food Convention to be held in Washington, January 19th, 1888.

(Signed)

E. H. BARTLEY,	}	<i>Committee.</i>
CHAS. E. DE LA VERGNE,		
FRANK E. WEST,		

On motion this report was received and adopted.

The Committee on "Hospital for Contagious Diseases in Brooklyn," reported progress.

The next business in order being the scientific business, Dr. B. F. Westbrook's paper on, "The treatment of fever," which was read at the December meeting and the discussion of which was adjourned to the January meeting was discussed by Drs. Butler, Eccles, Kretzschmar, Van Cott, Bartley, Bartlett, Colton, and Westbrook.

Under the head of new business, Dr. Colton called the attention of the Society to the unsatisfactory manner in which typhoid fever cases

were treated by the Board of Health, and suggested that the Society take some action in the matter.

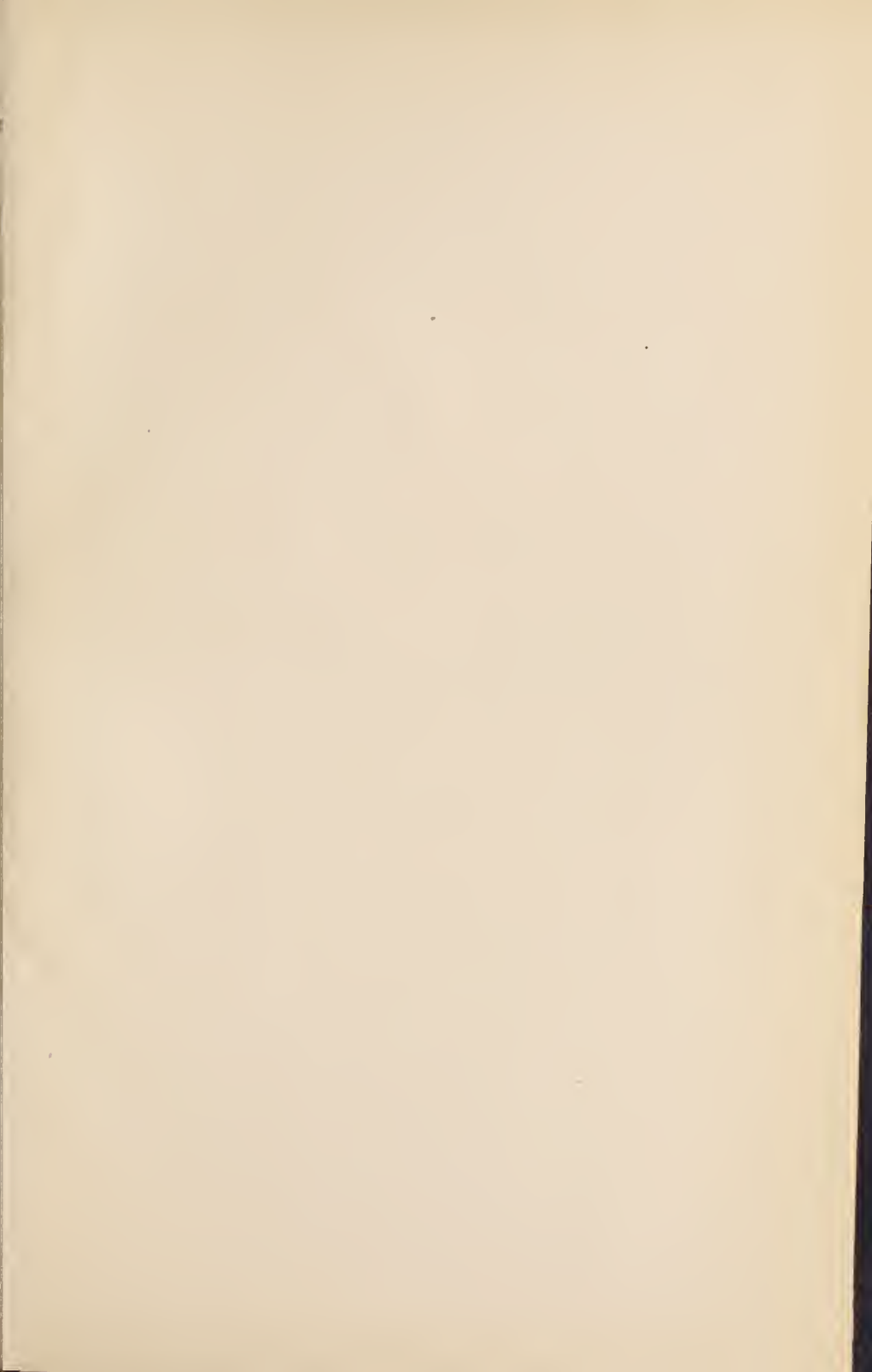
This matter was discussed by Drs. Palmer, Kretzschmar, Colton, and Bartley who moved that a committee of three be appointed to memorialize the Common Council, through the Board of Health, in regard to the unjust discrimination in regard to typhoid fever, in placing it among the diseases regarded as contagious by the Sanitary Code. The Chair then appointed Drs. Bartley, Colton and Palmer as such Committee.

Dr. Stuart stated, on behalf of the Committee on Directory for Nurses, that inasmuch as the telephone on the premises was in constant use by the members of this Society and of the other societies meeting in these rooms he had to request that the Society assume the payment of the telephone bill hereafter, and moved that it be so ordered.

This motion was seconded and carried.

When on motion the meeting adjourned.

CHARLES E. DE LA VERGNE,
Secretary.





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